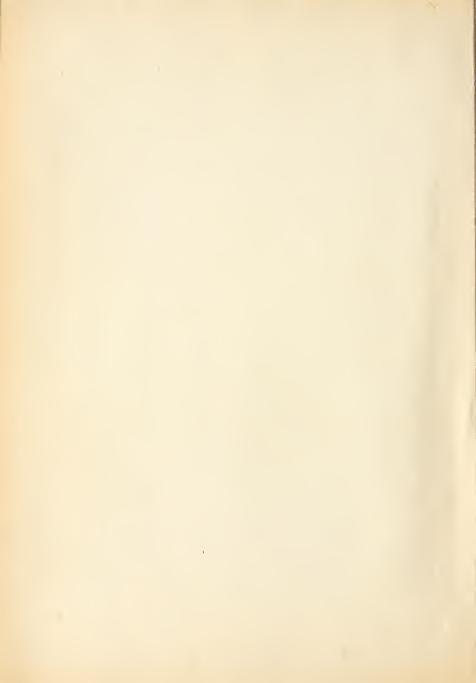


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Mittle Journeys

To Homes of Great Scientists

By ELBERT HUBBARD

HAECKEL



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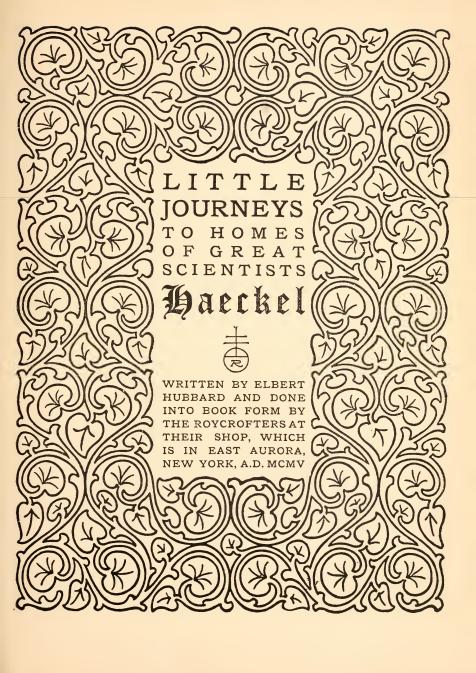
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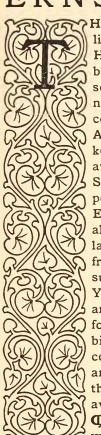
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ERNST HAECKEL

OTHING seems to me better adapted than this monistic perspective to give us the proper standard and the broad outlook which we need in the solution of the vast enigmas that surround us. It not only clearly indicates the true place of man in nature, but it dissipates the prevalent illusion of man's supreme importance and arrogance with which he sets himself apart from the illimitable universe, and exalts himself to the position of its most valuable element. This boundless presumption of conceited man has misled him into making himself "the image of God," claiming an "eternal life" for his ephemeral personality, and imagining that he possesses unlimited "freedom of will." The ridiculous imperial folly of Caligula is but a special form of man's arrogant assumption of divinity. Only when we have abandoned this untenable illusion, and taken up the correct cosmological perspective, can we hope to reach the solution of the "Riddle of the Universe."

-THE RIDDLE OF THE UNIVERSE

ERNST HAECKEL



HERE was a man, once upon a day, who lived in East Aurora and kept a store. He sold everything from cough syrup to blue ribbon; and some of the things he sold on time to philosophers who sat on nail kegs every evening, and settled the coal strike.

And in due course of time the storekeeper compromised with his creditors, at twenty-nine cents on the dollar.

Some say the man went busted a-purpose to quit business and get out of East Aurora. And he himself generally allowed the opinion to gain ground in later years that he had planned his life, from start to finish, thus proving the supremacy of the will.

Yet others there be, and men of worth and social standing in the village—known for miles up the creek as persons of probity—who claim that it was too much confidence in the Genus Smart-Setter, and trotting horses at the County Fairs, that made it possible for our friend to avail himself of the Bankruptcy Act. **Q** Still others, too inert to follow the winding ways of a strange career and give reasons, dispose of the matter by

saying, "Providence!"—rolling their eyes upward, then walking out, leaving the wordy contestants humiliated and undone.

It will be seen that I am interested in this chapter of Ancient History,—and in truth I myself occasionally ornament the nail kegs. I claim that it was neither Providence nor astute planning that mapped this man's course, but Providence, Planning and Luck; and I silence the adversary, for the time, by citing these facts:

Very shortly after Providence and the sheriff of Erie county—whose name, by the way, was Grover Cleveland—had disposed of the East Aurora grocery, our friend met a man in Buffalo who had a wonderful secret, a sweeping scar on his chin, and nothing else worth mentioning.

This man secured his assets in Germany; he got them while attending the University of Jena.

The secret was gotten by an understanding with a professor; the scar was received through a misunderstanding with a student.

The secret was a plan by which you could make glucose from corn.

In Germany it was only a laboratory experiment, because there was no corn in Europe to speak of.

Here we had corn to burn, since in that very year the farmers of Iowa were using corn for fuel.

Glucose is the active saccharine principle in maize, but it does not become active until the corn is treated chemically in a certain way, just as honey is not

honey until a bee puts it through his Mæterlinck laboratory.

Glucose is a food; it can be used for all purposes where sugar is used, in degree, at least. And every living person on earth uses sugar as food every day! Now, our ex-grocer knew all about Hambletonian Ten and Dexter; but dextrine, dextrose and glucose were out of his class. Yet, he realized that if sugar could be made from corn, there was a fortune in it for somebody.

Opportunity, we are told, knocks once at each man's door. Our David Harum was forty, past, and he had often thought Opportunity was tapping, but when he opened wide the door, darkness there, and nothing more! Opportunity had knocked, but was too timid to stay. This time, he heard the knock, and when he opened the door, Opportunity made a rush for him, grabbed him by the collar—catch-as-catch-can—in a grip he could not shake off.

Mr. Harum examined as best he could the glucose the German student had made, and then he watched the whole experiment worked out over again. What the particular ingredients were, was still a secret. The man would not sell out; he wanted to organize a manufactory and take a certain per cent of the profits. David had a thousand dollars, saved out of the wreck at East Aurora; but he knew if he could show certain men that the scheme was genuine, he would be able to raise more.

Five thousand dollars was secured. But the men who

advanced the four thousand dollars demanded an insurance policy on the life of the German chemist. This appealed to our David Harum as an excellent plan; if the man who held the secret should die, all would be lost save honor.

They insured the life of the chemist for twenty thousand dollars.

In a month after he was killed in a railroad wreck on a Sunday-school excursion. And the moral is—but never mind that now.

The twenty thousand dollars insurance was paid to David Harum. He immediately repaid his friends their four thousand dollars, and reserved for himself, very properly, the sixteen thousand dollars to cover expenses & &

He then started for Jena. Arriving there, he found that the making of glucose was no special secret, and to manufacture it on a large scale was simply a matter of evolving the right kind of system and a plant.

He hired a young German chemist, who had just graduated, for a matter of, say, a thousand dollars a year and expenses, and the two started back for America. Grown this arose the Glucose Industry in the United States. In ten years time twelve million dollars were invested in the business; in 1903, over a hundred million dollars were invested. Our East Aurora hero sold out his interests in 1890 for some such bagatelle as thirteen million dollars. G The German student is back at Jena taking a post-graduate course in chemistry—the first one is still dead.



AM told that there be folks who poohpooh college training and sneeze on mention of a University degree. Usually these good people have no University degrees, but have been greatly helped by those who have.

Our David Harums are not college bred,—a statement which I trust will go unchallenged.

The true type of German student is made in Germany, and when taken out of his native environment, often evolves into something less beautiful.

His lack of worldly ambition is his chief claim to immortality. His wants are few; he rises early and works late; he is practical in his own particular specialty, but often most impractical outside of it; he is plodding, patient, painstaking and will follow a microbe you cannot see, as Thompson Seton's hunter followed the Kootenay ram. This simple reverence for the truth—this passion for an idea—this desire to know—these things have given to the world some of its richest treasures.

We are aware of what the Rockefellers have done, but we seldom stop to think of the unknown laboratory students, who made possible such vast and farreaching institutions as the Standard Oil Company, the Amalgamated Copper Company, the Carborundum Company, the Westinghouse Electric Company, and the various beet-sugar factories, that give work to thousands, and lift whole counties, and even states from penury to plenty.

Germany honors her scholars; and one of the strongest instincts of her national life, is her search for genius.

¶ Initiative is originality in motion.

Originality is too rare to flout and scout. Not all originality is good, but all good things, so far as humanity is concerned, were once original. That is to say, they were the work of Genius.

Germany's sympathy for the best in thought, has occasionally been broken in upon by pigmy rulers, who for the moment, had a giant's power, so it seems hardly possible that a government which encouraged Goethe should have banished Wagner.

The greatness of Kant was largely owing to the fact that he was set apart by Frederick and made free to do his work; and at this time, not another monarchy in the world would have had the insight to keep its coarse hands off from this little man with the big head and brain of a prophet.

And as Kant was the greatest and most original thinker of his time, so today does a German University house the world's greatest living scientist.

Ernst Hæckel has been Professor of Natural History of Jena for forty-two years. All the efforts of various other Universities to lure him away, have failed. He even declined to listen to the siren song of Major Pond, and at big baits dangled on long poles from Cook County, Illinois, he only smiled.

"I have everything I want, everything I can use is right here; why should I think of uprooting my life?" he asked.

And yet, Jena there in the shadow of the Thuringian mountains, is only a little town of less than ten thousand inhabitants. In 1903 there were five hundred pupils registered at Jena, as against four thousand at Harvard, five thousand at Ann Arbor, and nearly the same at Lincoln, Nebraska.

It will not do to assume that those who graduate at big colleges are big men, any more than to imagine that folks who reside in big towns are bigger than those who live in little villages.

Perhaps the greatest men have come from the small colleges—I believe the small colleges admit this. And surely there is plenty of good argument handy, in way of proof; for while Harvard has her Barrett Wendell, with his caveat on clearness, force, and elegance; and Ann Arbor claims Cicero Trueblood, Professor of Oratory, whose official duty it is to formulate the College Yell; yet Amherst, with her scant five hundred pupils, has Professor David P. Todd, the greatest astronomer of the New World.

I really wonder what a University that stands in fear of Triggsology would do with Professor Ernst Hæckel, whose disregard for tradition is decidedly Ingersollian! If The actual fact is, Ernst Hæckel, the world's greatest thinker, belongs in the little town of Jena, in Germany. At the village of Coniston, you see the little hall where Ruskin read the best things he ever wrote, to a dozen or two people. At Hammersmith, the limit of a William Morris audience was about a hundred, at Jena, Ernst Hæckel sits secure in his little lecture

hall, and speaks or reads to fifty or sixty students, but the printed word goes to millions, so his thoughts here expressed in Jena, are shots heard 'round the world. American pedagogic institutions are mendicant—they depend upon private charity and are endowed by pious pirates and beneficent buccaneers. The individuals who made these institutions possible very naturally have a controlling voice in their management. The colleges in America that are not supported by direct mendicancy, depend upon the dole of the legislator, & woe betide the pedagogic principal who offends the orthodox vote. His supplies are cut short, and the purse strings pucker until he moderates his voice to a monotone and dilutes his views to a dull neutral tint. (I do not know a University in the United States that would not place Ernst Hæckel on half rations, and make him fight for his life, or else he would be discharged and be reduced to the sad necessity of tilting windmills in popular lecture courses for the edification of agrarians.

The German government seeks to make men free. It even gives them the privilege of being absurd; for pioneers sometimes take the wrong track. We do not scout Columbus because his domestic voyages were failures; not even because he sought one thing and found another, and died without knowing the difference.

Hæckel's wants are all supplied; what he needs in the way of apparatus or material, is his for the asking; he travels at will the round world over; visions of old

age and yawning almshouses are not for him. He owns himself—he does what he wishes—he says what he thinks, and neither priest nor politician dare cry, hist! So we get the paradox: the only perfect freedom is to be found in a monarchy. "A Republic," said Schopenhauer, "is a land that is ruled by the many,—that is to say by the incompetent." But, of course, Schopenhauer knew nothing of the American primary, devised by altruistic Hibernians for the purpose of defeating the will of the incompetent many.

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RNST HÆCKEL was born in 1834, and consequently, he is just seventy years old at this writing. His parents were plain people, neither rich nor poor—and of such is the Kingdom of Heaven.

The greatest error one can make in life, is not to be well born; failing in this, a man struggles through life under an awful handicap.

Hæckel formed the habit of steady, systematic work, in youth, and untiring effort has been the rule of his life. Man was made to be well, and he was made to work. It is only work—which is the constant effort to retain equilibrium—that makes life endurable. So we find Hæckel now, at three-score-and-ten, a model of manly vigor. with all the eager, curious, receptive qualities of youth—a happy man, but one who knows that happiness lies on the way to heaven, and not in arriving there and sitting down to enjoy it.

Ernst Hæckel gathers his manna fresh every day. ¶ I believe Hæckel enjoys his pipe and mug after the day's work is done; but for stimulants in a general sense, he has no use. In his book on Ceylon, he attributes his escape from the jungle fever, from which most of his party suffered, to the fact that he never used strong drink, and ate sparingly.

He is jealous of the sunshine—a great walker—works daily with hoe and spade in his garden; and breathes deeply, pounding on his chest when going from his house to the college in a way that causes much amusement among the fledglings. Tall, spare rather than stout, bronzed, active, wearing shoes with thick soles, plain gray clothes, often accompanied by a half dozen young men, he is a common figure on the roads that wind out of Jena, and lose themselves amid the mountains * *

The distinguishing feature of the man is his animation. He is full of good cheer, and acts as if he were expecting to discover something wonderful very soon.

To find the balance between play and work, has been the aim of his life; and surely, he has pretty nearly discovered it.

Once when a caller asked him what he considered the greatest achievement of his life, he took out of his pocket a little leather case containing a bronze medal, and proudly passed it around. This medal was presented to him in 1859, in token of a running high jump—the world's record at the time, or not, as the case may be.

Hæckel is essentially an out-of-door man, as opposed to the philosopher who works in a stuffy room, and grows round-shouldered over his microscope. "I may entrust laboratory analyses to others, but there is one thing I will never let another do for me, and that is take my daily walk a-field," he once said.

In lecturing he sits at a table and simply talks in a very informal way; often purposely arousing a discussion, or awakening a sleepy student with a question. Yet on occasion he can speak to a multitude, and, like Huxley, rise to the occasion. Oratory, however, he considers rather dangerous, as the speaker is usually influenced by the opinions of the audience, and is apt to grow more emphatic than exact—to generate more heat than light.

The comparison of Hæckel with Huxley, is not out of place. He has been called the Huxley of Germany. just as Huxley was called the Hæckel of England. In temperament, they were much alike; although Hæckel perhaps does not use quite so much aqua fortis in his ink. Yet I can well imagine that if he were at a convention where the Bishop of Oxford would level at him a few theological spit-balls, he would answer, unerringly, with a sling and a few smooth pebbles from the brook. And possibly, knowing himself, this is why he keeps out of society, and avoids all public gatherings where pseudo-science is exploited.

There is a superstition that really great men are quite oblivious of their greatness, and that the pride of achievement is not among their assets. Nothing could

be wider of the mark. When Ernst Hæckel was asked "Who is your favorite author?" he promptly answered, "Ernst Hæckel."

His study is a big square room on the top floor of one of the college buildings; and in this room is a bookcase extending from ceiling to floor, given up to his own works. Copies of every edition, and of all translations are here. And in a special case are the original manuscripts, solidly bound in boards as carefully preserved as were the "literary remains" of William Morris, guarded with the instincts of a bibliophile.

Of the size of this Hæckel collection one can make a guess when it is stated that the man has written and published over fifty different books. These vary in size from simple lectures to volumes of a thousand pages. His work entitled "The Natural History of Creation" has been translated into twelve languages, and has gone through fifteen editions in Germany, and about half as many in England.

The last book issued by Professor Hæckel was that intensely interesting essay, "The Riddle of the Universe" which was written in 1899, in two months' time, during his summer vacation. He gave it out that he had gone to Italy, denied himself to all visitors who knew that he had not, and answered no letters. He reached his study every morning at six o'clock and locked himself in, and there he remained until eight o'clock at night. At noon one of his children brought him his lunch.

Unlike Herbert Spencer, whose later writings were

all dictated,—and very slowly and painstakingly at that,-Hæckel writes with his own hand, and when the fit is on, he turns off manuscript at the rate of from two to four thousand words a day. In writing "The Riddle of the Universe," he took no exercise save to go up on the roof, breathing deeply and pounding his chest, varying the pounding by reaching his arms above his head and stretching. However, after a few weeks the villagers and visitors got to looking for him with opera glasses; and he ceased going on the roof, taking his calisthenics at the open window. (This exercise of reaching and stretching until you lift yourself on tiptoe, he goes out of his way to recommend in his book on "Development," wherein he says, "There is a tendency as the years pass for the internal organs to drop, but the individual who will daily go through the motion of reaching for fruit on limbs of trees that are above his head, standing on tiptoe and slowly stretching up and up, occasionally throwing his head back and looking straight up, will of necessity breathe deeply, exercise the diaphragm and I believe in most cases will ward off disease and keep old age awaiting for long."

Here is a little common-sense advice given by a physician who is also a great scientist. To try it will cost you nothing—no apparatus is required—just throw open the window and reach up and up and up, first with one arm, then the other and then both arms. "The person who does this daily for five minutes as a habit, will probably have no need of a physician,"

adds Hæckel, and dismissing the subject, branches off into an earnest talk on radiolaria.



ÆCKEL was educated for a physician & began his career by practicing medicine. But his heart was really not in the work; he very soon came to the conclusion that the constant dwelling on the pathological was not worth while * "Hereafter I 'll

devote my time to the normal, not the abnormal and distempered. The sick should learn to keep well," he wrote a friend. And again, "If an individual is so lacking in will that he cannot provide for himself, then his dissolution is no calamity to either himself, the state or the race."

This was written in his twenties, and seems to sound rather sophomorish, but the idea of the boy is still with the old man, for in "The Riddle of the Universe" he says, "The final effect upon the race by the preservation of the unfit, through increased skill in surgery and medicine, is not yet known." In another place he throws in a side remark, thus, "Our almshouses, homes for imbeciles, and asylums where the hopelessly insane often outlive their keepers may be a mistake, save as these things minister to the spirit of altruism which prompts their support. Let a wiser generation answer!"

Doubtless Hæckel could make a good argument in favor of the doctors if he wished, but probably if asked

IOURNEYS

to do so his answer would paraphrase Robert Inger- LITTLE soll, when that gentleman was taken to task for unfairness towards Moses, "Young man, you seem to forget that I am not the attorney of Moses-don't worry, there are more than ten millions of men looking after his case."

Ernst Hæckel is not the attorney for either the doctors or the clergy.

It was Darwin and "The Origin of Species" that tipped the beam for Hæckel in favor of science. Very shortly after Darwin's great book was issued, in 1859, a chance copy of the work fell into the hands of our young physician. He read and spoke English, and in a general way was interested in biology.

As he read of Darwin's observations and experiments the heavens seemed to open before him. Things he had vaguely felt, Darwin stated, and thoughts that had been his, Darwin expressed. "I might have written much of this book myself," he said.

The love of nature had been upon the young man almost from his babyhood. All children love flowers and mix easily with the wonderful things that are found in woods and fields. At twelve years of age Ernst had formed a goodly herbarium, and was making a collection of bugs, and not knowing their names or even that they had names, he began naming them himself. Later it came to him with a shock of surprise and disappointment that the bugs and beetles had already had the attention of scholars. But he got even by declaring that he would hunt out some of the tiny things

the scholars had overlooked and classify them. Every man imagines himself the first man, and to think that he is Adam and that he has to go forth, get acquainted with things and name them, reveals the true bent of the scientist.

Dr. Hæckel was ripe for Darwin's book. He was looking for it, and it only took a slight jolt to dislodge him from the medical profession and allow the Law of Affinity to do the rest. Wallace had written Darwin's book under another name, and if these men had not written it, Hæckel surely would, for it was all packed away in his heart and head. As Darwin had studied and classified the Cirripedia, so would he write an essay on Rhizopods. Luck was with him—luck is always with the man of purpose. He had an opportunity to travel through Italy as medical caretaker to a rich invalid. Sickness surely has its uses; and rich invalids are not wholly a mistake on the part of Setebos. Hæckel secured the leisure and the opportunity to round up his Rhizopods.

He presented the work to the University of Jena, because this was the University that Gæthe attended, and the gods of Hæckel were three—Gæthe, Darwin and Johannes Muller. Muller was instructor in Zoology at Berlin, a man quite of the Agassiz type who made himself beloved by the boys because he was what he was—a boy in heart, with a man's head and the soul of a saint. Some one said of Muller, "To him every look into a microscope was a service to God." In his reverent attitude he was like Linnæus who fell

on his knees on first beholding the English gorse in full flower, and thanked heaven that such a moment of divine joy was his.

Muller was a Jena man, too, and he gave Hæckel letters to the big-wigs.

The wise men of Jena discovered that there was merit in Hæckel's discoveries. Original investigators are rare—most of us write about the men who have done things, or else we tell about what they have done, and so we reach greatness by hitching our wagon to a star **

For the essay on "Rhizopods," Hæckel was made Professor Extraordinary of the University of Jena. This was in 1862; Hæckel was then twenty-eight years old; & there he is today, after a service of forty-two years.

ÆCKEL is happily married, with a big brood of children and grandchildren about him. Some of his own children and the grandchildren are about the same age, for Hæckel has two broods, having had two wives both of whom sympathized with the Teddine philosophy. With the whole household, including servants, the great scientist is on terms of absolute good camaradie. The youngsters ride on his back; the older girls decorate him with garlands; the boys work with him in the garden or together they

But when it comes to study he goes to his own room

tramp the fields and climb the hills.

in the Zoology Building, enters in and locks the door. When he travels he travels alone, without companion or secretary. Travel to him means intense work; and intense work means to him intense pleasure.

Solitude seems necessary to close and consecutive thinking; and in the solitude of travel—through jungle, forest, crowded city, or across wide oceans, Hæckel finds his true and best self. Then it is that he puts his soul in touch with the Universal and realizes most fully Gæthe's oft repeated dictum, "ALL IS ONE." ¶ And indeed to Gæthe must be given the credit of preparing the mind of Hæckel for Darwinism.

In his book, "The Freedom of Science and Teaching," Hæckel applies the poetic monistic ideas of Gæthe to biology and then to sociology.

"All is one." And this oneness that everywhere exists is simply a differentiation of the original single cell. The evolution of the cell mirrors the evolution of the species—the evolution of the individual mirrors the evolution of the race. This law, first expressed by Goethe, is the controlling shibboleth in all of Hæckel's philosophy. In embryology he has proved it to the satisfaction of the scientific world. When he applies it to sociology our Bellamys are looking backward to Sir Thomas Moore, and expect a sudden transformation to a Utopia; not unlike the change which the good old preachers used to tell us we would experience "in the twinkling of an eye."

Hæckel builds on Darwin and shows that as the Cirripedia which make the bottom of the ocean, the coral

"insect" that rears dangerous reefs and even mountain ranges, and the Rhizopods that made the chalk cliffs possible, did not change the earth's crust in the twinkling of an eye, so neither can the efforts of man instantly change the social condition. Souls do not make lightning changes. Karl Marx thought society would change in the twinkling of a ballot, but he was not a Monist, and therefore did not realize that humanity is a solidarity of souls, evolved from very lowly forms and still slowly ascending.

And the beauty of it is, the Marxians are helping the race to ascend, by supplying it an Ideal, even it they fail utterly to work their lightning change. In the end there is no defeat for any man or any thing.

When men deserve the Ideal they will get it. So long as they prefer beer, tobacco, brawls and slums, these things will be supplied. When they get enough of these something better will be evolved. The stupidity of George III. was a necessary factor in the evolution of freedom for America. All is one; all is Good; and all is God.

The Marxians will eventually win, but by Fabian methods, and socialism will come under another name. **Q** As opposed to Herbert Spencer, Hæckel does not admit the Unknowable, although, of course, he realizes the unknown. No man ever had a fuller faith, and if there is any such thing as a glorious death-bed it must come to men of this type who believe not only that all is well for themselves, but for every one else. How a death-bed could be "glorious" for a man who had

perfect faith in his own salvation and an equally perfect faith in the damnation of most everybody else, is difficult to understand.

A true Monist would rather be in hell asking for water than in heaven denying it. He loves humanity because he is Humanity, and he loves God because he is God. As a single drop of water mirrors the globe, so does a single man mirror the race. And the evolution—biological and sociological—of the man mirrors the evolution of the species.

When one once grasps the beauty and splendor of the monistic idea, how mean and small become all those little, fearsome "schemes of salvation," whereby men were to be separated and impassible gulfs fixed between them. Those who fix gulfs here and now are intent on showing that God will fix gulfs hereafter; and thus we see how man is continually creating God in his own image. His idea of God's justice is always built on his own, and, as usually, our deities are more or less inherited-heirlooms of the past-we see that it is not at all strange that men should be better than their religion. They drag their dead creeds behind them like a stage coach, with priests and preachers on top; kings and nobles inside; and coffins full of past sins in the boot. A man is always better than his creed, unless perchance he makes his creed new every day. Hand-me-down religions seldom fit, and professional theology is mostly a-dealing in ol' clo'.



N the month of September, 1904, Ernst Hæckel was one of the delegates to the Freethinkers Congress at Rome. To hold such a convention in the Eternal City, right under the eaves of the Vatican, was surely a trifle "indelicate," to use the

words of the Pope. And it was no wonder that at the close of the Congress the Pope at once ordered a sacred house-cleaning, a divine fumigation. Forty years ago he would have acted before the Congress convened, not afterward. Special mass was held in every Catholic Church in Rome "to partially atone for the insult done to Almighty God."

Over three thousand delegates were present at the Congress, every civilized country being represented. A committee was named to decorate the statue of Bruno that stands on the spot where he was burned for declaring that the earth revolved, and that the stars were not God's jewels hung in the sky each night by angels.

On this occasion, in the course of his speech, Hæckel said, "This Congress is historic. It marks a white mile post in the onward and upward march of freedom. We have met in Rome not accidentally or incidentally, but purposely. We have met here to show the world that times have changed, that the earth revolves, and to prove to ourselves in an impressive and undeniable way that the power of superstition is crippled, and at last Science and Free Speech need no longer cringe and crawl. We respect the Church for what she is,

but our manhood must now realize that it is no longer the slave-and tool of entrenched force and power that abrogates to itself the name of religion."

The Hæckel attitude of mind is essentially one of faith—Hæckel's hope for the race is sublime. There are several things we do not know, but we may know some time, just as men know things that children do not. As yet we are only children in the kindergarten of God. And this garden where we work and play is our own. The boy of ten, or even the man of sixty may never know, but there will come men greater than these and they will understand. The Monist—the man who believes in the One—the All—is essentially religious **

Hæckel has chosen this word Monism, as opposed to theism, deism, materialism, spiritism. Dr. Paul Carus is today the ablest American exponent of Monism, and to him it is a positive religion. If Monism could make men of the superb mental type of Paul Carus, well might we place the subject on a compulsory basis and introduce it in our public schools. But Hæckel and Carus believe quite as much in freedom as in Monism. All violence of direction is contrary to growth, and delays evolution just that much. The One of which we are part and particle—single cells, if you please—is constantly working for its own good. We advance individually as we lie low in the Lord's hand, and allow ourselves to be receivers and conveyers of the Divine Will.

And we ourselves are the Divine Will.

The contemplation of this divinity excites the religious emotions of awe, veneration, wonder and worship. It is a world of correlation. The All is right here. There is no outside force or energy—no god or supreme being that looks on, interferes, dictates and decides. To admitthere is an outside power, something uncorrelated, is to invite fear, apprehension, uncertainty and terror. This undissolved residuum is the nest-egg of superstition. The man who believes that God is the Whole, and that every man, is a necessary part of the Whole, has no need to placate or please an intangible Something. All there is for him to do is to be true to his own nature—to live his life—to understand himself. And this takes us back to the Socratic maxim, "Know Thyself."

No man ever expressed one phase of Monism so beautifully and well as Emerson has in his "Essay on Compensation." This intelligence in which we are bathed rights every wrong, equalizes every injustice, balances every perversion, punishes the wrong and rewards the right. The Universe is self-lubricating and automatic.

The Greeks beheld the sublime truths of Compensation when they pictured Nemesis. It is absurd to punish—leave it to Nemesis—she never forgets—nothing can escape her.

Our duties lie in service to ourselves, and we best serve self by serving humanity. This is the only religion that pays compound interest to both borrower and lender. Worship Humanity and you honor yourself.

LITTLE

And the world has ever dimly perceived this, for history honors no men save those who have given their lives that others might live. The saviors of the world are only those who loved Humanity more than all else. All men who live honest lives are saviors—they live that others may live. He that saveth his life shall lose it. **Q** We grow through radiation, not by absorption or annexation.

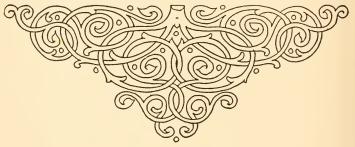
To him that hath shall be given.

We keep things by giving them to others.

The dead carry in their clenched hands only that which they have given away; and the living carry only that love in their hearts which they have bestowed on others.

"I and my Father are one"—the thought is old, very old, but to prove it from the so-called material world through the study of biology has been the life work of Ernst Hæckel.

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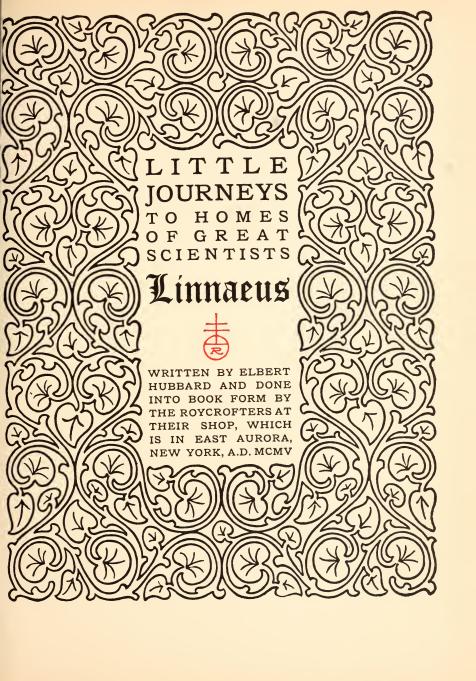
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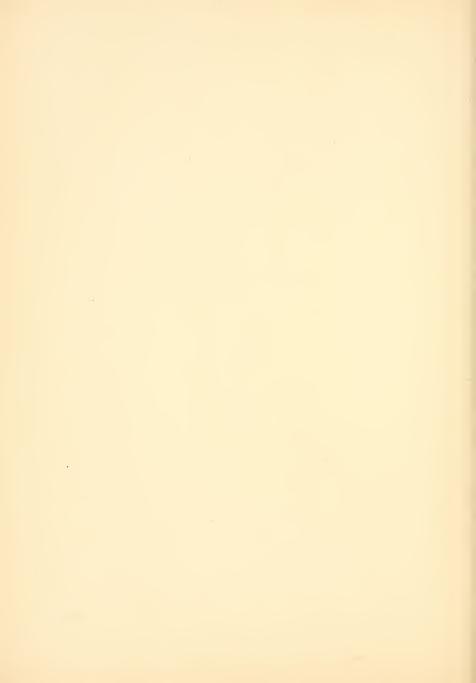
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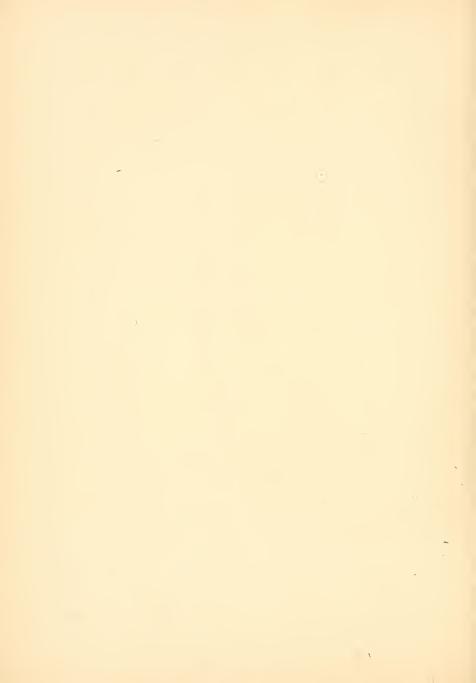


Carl von Linnaeus

HEN a man of genius is in full swing never contradict him, set him straight or try to reason with him. Give him a free field. A listener is sure to get a greater quantity of good, no matter how mixed, than if the man is thwarted. Let Pegasus bolt—he will bring you up in a place you know nothing about! —LINNAEUS



LINNAEUS



LINNAEUS

HE name of Aristotle looms large out of the mist and fog of time. Aristotle lived over twenty-three hundred years ago. He might have lived yesterday, so distinctively modern was he in his method and manner of thought.

Aristotle was the world's first scientist. He sought to sift the false from the true—to arrange, classify and systematize. **Q** Aristotle instituted the first zoological garden that history mentions, barring that of Noah. He formed the first herbarium, and made a geological collection that prophesied for Hugh Miller the testimony of the rocks. Very much of our scientific terminology goes back to Aristotle.

Aristotle was born in the mountains of Macedonia. His father was a doctor and belonged to the retinue of King Amyntas. The King had a son named Philip, who was about the same age as Aristotle. ¶Years later, Philip had a son named Alexander, who was somewhat unruly, and Philip sent a Macedonian cry over to Aristotle, and Aristotle harkened to the call for help, and went over and took charge of the education of Alexander.

Q The science of medicine in Aristotle's boyhood was the science of simples. In surgery the world has progressed, but in medicine, doctors have progressed most, by consigning to the grave, that tells no tales, the deadly materia medica.

In Aristotle's childhood, when his father was both guide and physician to the king, on hunting trips through the mountains, the good doctor taught the boys to recognize hemlock, hellebore, sarsaparilla, sassafras, mandrake and stramonium. Then Aristotle made a list of all the plants he knew and wrote down the supposed properties of each.

Before Aristotle was half grown both his father and mother died, and he was cared for by a Mr. and Mrs. Proxenis & &

This worthy couple would never have been known to the world were it not for the fact that they ministered to this orphan boy. Long years afterward he wrote a poem to their memory, and paid them such a tender, human compliment that their names have been woven into the very fabric of letters. "They loved each other, and still had love enough left for me," he says. And we can only guess whether this man and his wife with hearts illumined by divine passion, the only thing that yet gladdens the world, ever imagined that they were supplying an atmosphere in which would bud and blossom one of the greatest intellects the world has ever known.

It was through the help of Proxenis that Aristotle was

enabled to go to Athens and attend the School of Oratory, of which Plato was dean.

LITTLE JOURNEYS

The fine, receptive spirit of this slender youth evidently brought out from Plato's heart the best that was packed away there. Aristotle was soon the star scholar. To get much out of school you have to take much with you when you go there. In one particular, especially, Aristotle—the country boy from Macedonia—brought much to Plato—and this was the scientific spirit. Plato's bent was philosophy, poetry and rhetoric—he was an artist in expression.

"Know thyself," said Socrates, the teacher of Plato.

G"Be thyself," said Plato.

"Know the world of Nature, of which you are a part," said Aristotle, "and you will be yourself and know yourself without thought or effort. The things you see, you are."

Plato and Aristotle were together for twenty-three years, and when they separated it was on the relative value of science and poetry. "Science is vital," said Aristotle, "but poetry and rhetoric are incidental." It was a little like the classic argument still carried on in all publishing houses as to which is the greater, the man who writes the text or the man who illustrates it. Gone is almost tempted to think that Plato's finest product was Aristotle, just as Sir Humphrey Davy's greatest discovery was Michael Faraday. One fine, earnest, receptive pupil is about all any teacher should expect in a lifetime, but Plato had at least two, Aristotle and Theophrastus. And Theophrastus dated his

birth from the day he met Aristotle. ¶ Theo-Phrastus means God's speech, or one who speaks divinely. The boy's real name was Ferguson. But the name given by Aristotle—who always had a passion for naming things—stuck, and the world knows this superbly great man as Theophrastus.

Botany dates from Theophrastus. Theophrastus dedicated one of his books, "To Aristotle, the inspirer of all I am or hope to be."



ence of Botany slept for three hundred years. During this interval was played that immortal drama in Palestine which has influenced the world so profoundly.

Twenty-three years after the birth of

Christ, Pliny, the Naturalist, was born. He was the uncle of his nephew, and it is probable that the younger man would have been swallowed in oblivion, just as the body of the older one was covered by the eager ashes of Vesuvius, were it not for the fact that Pliny the Elder had made the name deathless. Pliny the Younger was about such a man as Richard Le Gallienne; Pliny the Elder was like Thomas A. Edison. At twenty-two, Pliny the Elder was a captain in the Roman Army doing service in Germany. Here he made memoranda of the trees, shrubs and flowers he saw and compared them with similar objects he knew at home. "As you go North and South, animal and

vegetable life change; from this I assume that life is largely a matter of temperature and moisture." Thus wrote this barbaric Roman soldier, who thereby proved he was not so much of a barbarian after all. (When he was twenty-five, his command was transferred to Africa, and here in moments stolen from sleep, he wrote a work in three volumes on education, entitled, "Studiosus." In writing the book he got an education-to find out about a thing, write a book on it. Pliny returned to Rome and began the practice of law, and developed into a special pleader of marked power. He still held his commission in the army, and was sent on various delicate diplomatic errands to Spain, Africa, Germany, Gaul and Greece. If you want things done, call on a busy man—the man of leisure has no spare time.

Pliny's jottings on natural history soon resolved themselves into the most ambitious plan, which up to that time had not been attempted by man—he would write out and sum up all human knowledge. The next man to try the same thing was Alexander von Humboldt. **Q** We now have Pliny's "Natural History" in thirty-seven volumes. His other forty volumes are lost. The first volume of the "Natural History," which was written last, gives a list of the authors consulted. Aristotle and Theophrastus take the places of honor, and then follow a score of names of men whose works have perished and whom we know mostly through what Pliny says about them. So not only does Pliny write science as he saw it, but he introduces us into a select

circle of authors whom otherwise we would not know. We have the world of nature, but we would not have this world of thinkers, were it not for Pliny. Pliny even quotes Sappho, who loved and sang, and whose poems reach us only through scattered quotations, as if Emerson's works should perish and we would revive him through a file of the "Philistine" magazine. QPliny and Paul were contemporaries. Pliny lived at Rome when Paul lived there in his own hired house, but Pliny never mentions him, and probably never heard of him. One man was interested in this world, the other in the next.

Pliny begins his great work with a plagiarism on Lyman Abbott: "There is but one God." The idea that there were many arose out of the thought that because there are many things, there must be special gods to look after them—gods of the harvest, gods of the household, gods of the rain, etc.

There is but one God, says Pliny, and this God manifests Himself in nature. Nature and nature's work are one. This world & all other worlds we see or can think of are parts of nature. If there are other Universes, they are natural, that is to say a part of nature. God rules them all according to laws which He Himself cannot violate. It is useless to supplicate Him, and absurd to worship Him, for to do these things is to degrade Him with the thought that He is like us. The assumption that God is very much like us is not complimentary to God & &

God cannot do an unnatural or a supernatural thing. He

cannot kill Himself. He cannot make the greater less than the less. He cannot make twice ten anything else than twenty. He cannot make a stick that has but one end. He cannot make the past, future. He cannot make one who has lived never to have lived. He cannot make the mortal, immortal; nor the immortal, mortal. He can change the form of things, but He cannot abolish a thing.

Pliny preaches the unity of the Universe and his religion is the religion of Humanity.

Pliny says, "We cannot injure God, but we can injure man. And as man is a part of nature or God, the only way to serve God is to benefit man. If we love God, the way to reveal that love is in our conduct toward our fellows."

Pliny was close upon the Law of the Correlation of Forces, and he almost got a glimpse of the Law of Attraction or Gravitation. He sensed these things, but could not prove them.

Pliny touched life at an immense number of points. What he saw, he knew, but when he took things on the word of Marco Polo and Sir John Mandeville, for these gentlemen adventurers have always lived, he fell into curious errors. For instance he tells of horses in Africa that have wings, and when hard pressed, fly like birds; of ostriches that give milk, and elephants that live on land or sea equally well; of mines where gold is found in solid masses and the natives dig into it for diamonds.

But outside of these little lapses, Pliny writes sanely

and well. **G**Book Two treats of the crust of the earth, of earthquakes, meteors, volcanoes (these had a strange fascination for him), islands and upheavals. Books Three and Four relate of geography and give some amusing information about the shape of the continents and the form of the earth. Then comes a book on man, his evolution, physical qualities, with a history of the races.

Next is a book on Zoology with a resume of all that was written by Aristotle, and with many corroborations of Thompson-Seton and Rudyard Kipling. Facts from the Jungle Book are here recited at length.

Book Nine is on marine life—sponges, shells and coral insects.

Book Ten treats of birds, and carries the subject further than it had ever been taken before, even if it does at times contradict John Burroughs.

Book Eleven is on insects, bugs and beetles, and tells among other things, of bats that make fires in caves to keep themselves warm.

Book Twelve is on trees, their varieties, height, age, growth, qualities and distribution.

Book Thirteen treats of fruits, juices, gums, wax, saps and perfumes.

Book Fourteen is on grapes and the making of wine with description of process and the various kinds of wine—their effect on the human system, with a goodly temperance lesson backed up by incidents & examples. ¶ Book Fifteen treats of apples, plums, figs, peaches,

Q Book Fifteen treats of apples, plums, figs, peaches, pomegranates and various other luscious fruits, and

shows much intimate and valuable knowledge. And so the list runs down through, treating at great length of bees, fishes, woods, iron, lead, copper, gold, marble, fluids, gases, rivers, swamps, seas, and a thousand and one things that were familiar to this marvelous man.

Gut of all subjects, Pliny shows a greater love for botany than for anything else. Plants, flowers, vines, trees and mosses interest him always and he breaks off other subjects to tell of some flower that he has just discovered.

Pliny had command of the Roman fleet that was anchored in the bay, off Pompeii, when that city was destroyed in the year seventy-nine. Sir Bulwer Lytton tells the story, with probably a close regard for the fact. The sailors, obeying Pliny's orders, did their utmost to save human life, and rescued hundreds. **Q** Pliny himself made various trips in a small boat from the ship to the beach. He was safely on board the flag-ship, & orders had been given to weigh anchor, when the commander decided to make one more visit to the perishing city to see if he could not rescue a few more, and also to get a closer view of Nature in a tantrum.

He rowed away into the fog.

The sailors waited for their beloved commander, but waited in vain. He had ventured too close to the flowing lava, and was suffocated by the fumes, a victim to his love for humanity and his desire for knowledge. So died Pliny the Elder, aged fifty-six.



ALL children are zoologists—but a botanist appears upon earth only at rare intervals.

QA Botanist is born—not made. Q From Pliny's time Botany performed the Rip Van Winkle act until John Ray, the son of a blacksmith appeared upon the scene in

England. In the meantime, Leonardo had classified the rocks, recorded the birds, counted the animals & written a book of three thousand pages on the horse. Leonardo dissected many plants, but later fell back upon the rose for decorative purposes.

John Ray was born in 1628 near Braintree in Essex. Now, as to genius—no blacksmith shop is safe from it. We know where to find ginseng, but genius is the secret of God.

A blacksmith's helper by day, this aproned lad with sooty face, dreamed dreams. Evenings he studied Greek with the village parson.

They read Aristotle and Theophrastus.

Have a care there you Macedonian miscreant—dead two thousand years—you are turning this boy's head! ¶ John Ray would be a botanist as great as Aristotle, and he would speak divinely just as did Theophrastus. ¶ It is all a matter of Desire!

Young Ray became a Minor Fellow of Trinity College, Cambridge; then a Major Fellow; then he took the Master's Degree; next he became lecturer on Greek—and insisted that Aristotle was the greatest man the world had ever seen, excepting none—and the Dean raised an eyebrow.

The professor of mathematics resigned and Ray took his place; next he became Junior Dean and then College Steward; and according to the custom of the times he used to preach in the chapel. One of his sermons was from the text, "Consider the lilies of the field." Another sermon that brought him more notoriety than fame was on the subject, "God in Creation," wherein he argued that to find God we should look for Him more in the world of nature and not so much in books.

¶ Matters were getting strained. Ray was asked to subscribe to the Act of Uniformity, which was a

not prescribed by the Church.

Ray demurred, and begged that he be allowed to go free and preach anything he thought was truth—new truth might come to him!

promise that he would never preach anything that was

This shows the absurdity of Ray. He was asked to reconsider or resign. He resigned—resigned the same year that Isaac Newton entered.

Fortunately one particular pupil followed him, not that he loved college less, but that he loved Raymore. This pupil was Francis Willughby. Through the bounty of this pupil we get the scientist—otherwise Ray would surely have been starved into subjection. ¶Willughby took Ray to the home of his parents, who were rich people.

Ray undertook the education of young Willughby, very much as Aristotle took charge of Alexander.

Ray and Willughby traveled, studied, observed and wrote. They went to Spain, took trips to France,

Switzerland and Italy and journeyed to Scotland. Willughby devoted his life to Ornithology and Ichthyology and won a deathless place in science.

Ray specialized on botany, and did a work in classification never done before. He made a catalog of the flora of England that wrung even from Cambridge a compliment-they offered him the degree of LL.D. Ray very quietly declined it, saying he was only a simple countryman, and honors or titles would be a disadvantage, tending to separate him from the plain people with whom he worked. However, the Royal Society elected him a member, and he accepted the honor that he might put the results of his work on record. His paper on the circulation of sap in trees was read before the Royal Society, on the request of Newton. Due credit was given Harvey for his discovery of the circulation of blood, but Ray made the fine point that man was brother to the tree, and his life was derived from the same Source.

When Willughby died in 1672 he left Ray a yearly income of three hundred dollars.

Dr. Johnson told Boswell that Ray had a collection of twenty thousand English bugs.

Our botanical terminology comes more from John Ray than from any other man. Ray adopted the names wherever possible given by Aristotle, so loyal, loving and true was he to the Master.

Ray died in 1705, aged seventy-six.





WO years after the death of Ray, in 1707, was born a baby who was destined to find biology a chaos, and leave it a cosmos. Linnaeus did for botany what Galileo had done for astronomy. John Ray was only a John the Baptist.

LITTLE JOURNEYS

Carl von Linne, or Carolus Linnaeus as he preferred to be called, was born in an obscure village in the Province of Smaland, Sweden. His father was a clergyman, passing rich on forty pounds a year. His mother was only eighteen years old when she bore him, and his father had just turned twenty-one. It was a poor parish, and one of the deacons explained that they could not afford a real preacher, so they hired a boy. Carl tells in his journal of remembering how when he was but four years old his father would lead his congregation out through the woods and all seated on the grass, the father would tell the people about the plants and herbs and how to distinguish them.

Back of the parsonage there was a goodly garden where the young pastor and his wife worked many happy hours. When Carl was eight years of age a corner of this garden was set apart for his very own. He impressed several neighbor children into the service and they carried flat stones from the brook to wall in this miniature farm—this botanical garden.

The child that has n't a flower bed or garden of its ownest own is being cheated out of its birthright.

The evolution of the child mirrors the evolution of the race. And as the race has passed through the savage,

LITTLE

pastoral and agricultural stages so should the child. As a people we are now in the commercial or competitive stage, but we are slowly emerging out of this into the age of co-operation or enlightened self-interest.

It is only a very great man-one with a prophetic vision, who can see beyond the stage he is in. The stage we are in seems the best and the final one-otherwise we would not be in it. But to skip any of these stages in the evolution or education of the individual seems a sore mistake. Children hedged and protected from digging in the dirt develop into "third rounders," as our theosophic friends would say, that is, educated non comps—vast top-head and small cerebellum—people who can explain the unknowable but who do not pay cash. Third rounders all-fit only for the melting pot! (A tramp is one who has fallen a victim of arrested development and never emerged from the nomadic stage; an artistic dilettante is one who has jumped the round where boys dig in the dirt and has evolved into a missnancy.

Young Linnaeus skipped no round in his evolution. He began as a savage, robbing birds' nests, chasing butterflies, capturing bees, beetles and bugs. He trained goats to drive, hitched up the calf, fenced his little farm, and planted it with strange and curious crops.

Clergymen once were the only school teachers, and in Sweden when Linnaeus was a boy, there was a plan of farming children out among preachers that they might be educated. Possibly this plan of having some one beside the parents teach the lessons is good, I cannot say. But young Carl did not succeed—save in disturbing the peace among the households of the half dozen clergymen who in turn had him. The boy evidently was a handsome fellow—a typical Swede—with hair as fair as the sunshine—blue eyes, and a pink face that set off the fair hair and made him look like a Circassian &

LITTLE JOURNEYS

He had energy plus, and the way he cluttered up the parsonages where he lodged was a distraction to good housewives. Birds' nests, feathers, skins, claws, fungi, leaves, flowers, roots, stalks, rocks, sticks and stones—and when one meddled with his treasures there was trouble. And there was always trouble; for the boy possessed a temper, and usually had it right with him. If The intent of the parents was that Carl should become a clergyman, but his distaste for theology did not go unexpressed. So perverse and persistent were his inclinations that they preyed on the mind of his father who quoted King Lear and said, "How sharper than a serpent's tooth it is to have a thankless child!"

His troubles weighed so upon the good clergyman that his nerves became affected and he went to the neighboring town of Wexio to consult Dr. Rothman, a famed medical expert.

The good clergyman, in the course of his conversation with the doctor, told of his mortification on account of the dullness and perversity of his son.

Dr. Rothman listened in patience and came to the conclusion that young Mr. Linnaeus was a good boy who did the wrong thing. All energy is God's, but it may be

misdirected. A boy not good enough for a preacher might make a good doctor—an excess of virtue is not required in the recipe for a physician.

"I'll cure you by taking charge of your boy," said Rothman—"you want to make a clergyman of the youth—I'll let him be what he wants to be, a naturalist and a physician."

And it was so.



HE year spent by Linnaeus under the roof of Dr. Rothman was a pivotal point in his life. He was eighteen years old. Rothman's contempt for the refinements of education appealed to the young man. Rothman was blunt, direct and to the

point—he had a theory that people grew by doing what they wanted to do, not by resisting their impulses.

He was friend and comrade to the boy. They rode together, dissected animals and plants, and the young man assisted in operations. Linnaeus had the run of the doctor's library, and without knowing it, was mastering physiology.

"I would adopt him as my son," said Rothman, "but I love him so much that I am going to separate him from me. My roots have struck deep in the soil—I am like the human trees told of by Dante, but the boy can go on!" & &

And so Rothman sent him along to the University of Lund, with letters to another doctor still more cranky

LITTLE

than himself. This man was Dr. Kilian Stobaeus, a medical professor, physician to the king, and a naturalist of note. Stobaeus had a mixed-up museum of minerals, birds, fishes and plants. Everybody for a hundred miles who had a curious thing in the way of natural history sent it to Stobaeus. Into this medley of strange and curious things Linnaeus was plunged with orders to "straighten it up."

There was a German student also living with the doctor, working for his board. Linnaeus took the lead and soon had the young German helping him catalog the curios. The spirit of Ray had gotten abroad in Germany and Ray's books had been translated and were being used in many of the German schools.

Linnaeus made a bargain with the German student that they should speak only German—he wanted to find what was locked up in those German books on botany & &

Stobaeus was lame and had but one eye, so he used to call on the boys to help him, not only to hitch up his horse, but write his prescriptions.

Linnaeus wrote very badly, and was chided because he did not improve his penmanship, for it seems that in the olden times physicians wrote legibly. Linnaeus resented the rebuke, and was shown the door. He was gone a week, when Stobaeus sent for him, much to his relief. This little comedy was played several times during the year, through what Linnaeus afterward acknowledged as his fault.

One would hardly think that the man who on first see-

LITTLE

ing the English gorse in full bloom fell on his knees, burst into tears of joy, and thanked God that he had lived to see this day, would have a fiery temper. Then further, the gentle spiritual qualities that Linnaeus in his later life developed give one the idea that he was always of a gentle nature.

In indexing the museum of Dr. Stobaeus, Linnaeus found his bent. "I will never be a doctor," he said, "but I can beat the world on making a catalog." And thus it was—his genius lay in classification. "He indexed and cataloged the world," a great writer has said.

After a year at the University of Lund, with more learned by working for his board than at school, there was a visit from Dr. Rothman who just dropped in to see his old friend Stobaeus. The fact was, Rothman cared a deal more for Linnaeus than he did for Stobaeus. "Weeds develop into flowers only by transplanting," said Rothman to Linnaeus. "You need a different soil—get out of here before you get pot bound." **Q** "But about Cyclops?" asked Linnaeus.

"Let Cyclops go to the devil."

It was of no use to ask permission of Stobaeus.

Linnaeus was so valuable that Stobaeus would not spare him. So Linnaeus packed up and departed between the dawn and the day, leaving a letter stating he had gone to Upsala because it seemed best and begged forgiveness for such seeming ingratitude.

When Linnaeus got to Upsala he found a letter from Dr. Cyclops, written in wrath, requesting him to never again show his face in Lund. Dr. Rothman also lost

the friendship of Stobaeus for his share in the transaction & &

JOURNEY



HEN Linnaeus arrived at Upsala he had one marked distinction, according to his own account—he was the poorest student that ever knocked at the gates of the University for admittance. Perhaps this is a mistake, for even though the young man

had patched his shoes with birch bark, he was not in debt. And the youth of twenty-one who has health, hope, ambition and animation is not to be pitied.

Poverty is only for the people who think poverty.

It is five hundred English miles from Lund to Upsala. After his long, weary tramp Linnaeus sat on the edge of the hill and looked down at the scattered town of Upsala in the valley below. A stranger passing by pointed out the college buildings, where a thousand young men were being drilled and disciplined in the mysteries of learning.

"And where is the Botanical Garden?" asked the newcomer.

It was pointed out to him. He gazed on the site, studied the surrounding landscape carefully, and mentally calculated where he would move the Botanical Garden as soon as he had control of it.

Let us just anticipate here long enough to explain that the Upsala Botanical Garden now is where Linnaeus said it should be. It is a most beautiful place, lined off

with close growing shrubbery, and after traversing the winding paths one reaches the lecture hall, built after the Greek with porches, peristyle and gently ascending marble steps. On entering the building, the first object that attracts the visitor is the life-size statue of Linnaeus.

To the left, a half-mile away, is the old cathedral—a place that never much interested Linnaeus. But there now rests his dust, and in windows and also in storied bronze his face, form and fame endure.

In the meantime, we have left the young man sitting on a boulder looking down at the town ere he goes forward to possess it. He adjusts his shoes with their gaping wounds, shakes the dust from his cap, and then takes from his pack a faded neck-scarf, puts it on and he is ready.

Descending the hill he forgets his lameness, waives the stone-bruises and walks confidently to the Botanical Garden, which he views with a critical eye. Next, he enquires for the Superintendent who lives near. The young man presents his credentials from Rothman who describes the youth as one who knows and loves the flowers, and who can be useful in office or garden and is not above spade and hoe.

The Superintendent looks at the pink face, touched with bronze from days in the open air, notes the long yellow hair, beholds the out-of-door look of fortitude that comes from hard, and plain fare, and inwardly compares these things with the lack of them in some of his students.

"But this Doctor—Dr. Rothman who wrote this letter—I do not have the honor of knowing him," says the Superintendent. LITTLE JOURNEYS

"Ah, you are unfortunate," replies the youth—"he is a very great man, and I myself will vouch for him in every way."

Oh! this glowing confidence of youth—before there comes a surplus of lime in the bones, or the touch of winter in the heart! The Superintendent smiled. Knock in faith and the door shall be opened—there are those whom no one can turn away. A stray bed was found in the garret for the stranger, and the next morning he was earnestly at work cataloging the dried plants in the herbarium, a grievous job that had been long delayed because there was no one to do it.



HE study of Natural History in the University of Upsala was, at this time, at a low ebb. It was like the Art Department in many American colleges: its existence largely confined to the school catalog. There were weeks of biting poverty and

neglect for Linnaeus, but he worked away in obscurity and silence and endured, saying all the time, "The sun will come out—the sun will come out!"

Dr. Olaf Rudbeck had charge of the chair of Botany but seldom sat in it. His business was medicine. He gave no lectures, but the report was that he made his students toil at cultivating his garden—this to open up

their intellectual pores. **G** In the course of his work, Linnaeus devised a plan of classification by sex instead of the so-called natural method. He wrote out his ideas and submitted them to Rudbeck. The learned Doctor first pooh-poohed the plan, then tolerated it, and in a month claimed he had himself devised it.

On the scheme being explained to others there was opposition, and Rudbeck requested Linnaeus to amplify his notes into a thesis, and read it as a lecture. It is was done, and so pleased was the old man that he appointed Linnaeus his adjunctus. In the spring of 1730 Linnaeus began to give weekly lectures on some topic of Natural History.

Linnaeus was now fairly launched. His animation, clear thinking, handsome face and graceful ways made his lectures very popular. Science in his hands was no longer the dull and turgid thing it had before been in the University. He would give a lecture in the hall and then invite the audience to walk with him in the woods. He seemed to know everything—birds, beetles, beasts, bugs, trees, weeds, flowers, rocks and stones were to him familiar. He showed his pupils things they had walked on all their lives and never seen.

The old Botanical Garden that had degenerated into a kitchen garden for the Commons was rearranged and furnished with many specimens gathered round about. A system of exchange was carried on with other schools, and Natural History at Upsala was becoming a feature. Old Dr. Rudbeck hobbled around with the classes, and when Linnaeus lectured sat in a front

seat, applauding by rapping his cane on the floor and ejaculating words of encouragement.

LITTLE JOURNEYS

Linnaeus was now receiving invitations to lecture at other schools in the vicinity. He made excursions and reports on the Natural History of the country around. The Academy of Science of Upsala selected him now to go to Lapland and explore the resources of that country which was then little known.

The journey was to be a long and dangerous one. It meant four thousand miles of travel on foot, by sledge and on horseback over a country, much of it mountainous, without roads and peopled with semi-savages. If There were two reasons why Linnaeus should make the trip—one was he had the hardihood and the fortitude to do it. And second, he was not wanted at Upsala. He was becoming too popular. One rival professor had gone so far as to prefer formal charges of scientific heresy; he also made the telling point that Linnaeus was not a college graduate. The rule of the University was that no lecturer, teacher or professor should be employed who did not have a degree from some foreign University.

Inquiry was made and it was found that Linnaeus had left the University of Lund under a cloud.

Linnaeus was confronted by the charge, and declined to answer it, thus practically pleading guilty.

So to get him out of Upsala seemed a desirable thing to both friends and foes. His friends secured the commission for the Lapland exploration and his enemies made no objections, merely whispering good-riddance.

To be twenty-four, in good health, with hair like that of General Custer, a heart to appreciate nature, a good horse under you, and a commission from the state to do an important work in your left hand breast pocket—what heaven more complete!

A reception was tendered the young naturalist in the great hall, and he addressed the students on the necessity of doing your work as well as you can, and being kind.

Before beginning his arduous and dangerous journey, Linnaeus went to Lund to visit his old patron, Dr. Stobaeus. Time, the great healer, had cured the Doctor of his hate, and he now spoke of Linnaeus as his best pupil. He had left hastily by the wan light of the moon without leaving orders where his mail was to be forwarded, but now he was received as an honored guest. All the little misunderstandings were laughed over as jokes.

From Lund, Linnaeus went to his old home at Smaland to visit his parents. It is needless to say that they were very proud of him, and the villagers turned out in numbers to do him honor, not knowing just why.



HE account of the Lapland trip by Linnaeus is to be found in his book, "Lachesis Lapponica." The journey covered over four thousand miles and took from May to November, 1731.

The volume is in the form of a daily

journal, and is as interesting as "Robinson Crusoe." There is no night there—in summer—but for all this, Lapland is not paradise. It is a great stretch of desert, vast steppes and mountains with here and there fertile valleys. To be out in the wide open, with no companions but a horse and a dog, filled the heart of Linnaeus with a wild joy. As he went on, the road grew so rough that he had to part with the horse—which he did with a pang—but the dog kept him company.

To be educated is to liberate the mind from its trammels and fears—to set it free, new chisled from the rock & &

Linnaeus reveled in the vast loneliness of the steppes and took a hearty satisfaction in the hard fare. His gun and fishing-rod stood him in good stead; there were berries at times and edible barks and watercress, and when these failed he had a little bag of meal and dried reindeer tongues to fall back upon.

The simplicity of his living is shown best in the fact that the expenses for the entire journey, occupying seven months, was only twenty-five pounds, or less than one hundred and twenty-five dollars. The Academy had set aside sixty pounds, and their surprise at having most of the money returned to them, instead of a demand being made for more, won them, hand and heart. He had struck the sturdy old burghers in a sensitive spot—the pocket book—and they passed resolutions declaring him the world's greatest naturalist, and voted him a medal, to be cast at his own expense. **Q** Fame is delightful but as collateral it does not rank

high. Linnaeus was without funds and without occupation. He gave a course of lectures at the University on his explorations, where every seat was taken and even the stage and windows were filled. The sprightliness, grace and intellect Linnaeus brought to bear illumined his theme. When Linnaeus lectured all classes were dismissed—none could rival him. His very excellence was his disadvantage. Jealousy was hot on his trail—for he was disturbing the balance of stupidity.

A movement grew to force him from the college. Formal charges were made and when the case came to trial the even tenor of justice was disturbed by Linnaeus making an attack on Professor Rosen, his principal enemy, with intent to kill him. Duelling has been forbidden in all the universities of Sweden since 1682, and the diversion replaced by quartet singing. So when Linnaeus challenged his enemy to fight—and warned him he would kill him if he did n't fight, and also if he did—things were in a bad way for Linnaeus. The former charges were dropped to take up the more serious—just as when a man is believed to be guilty of murder no mention is made of his crime of larceny.

Poor Linnaeus was under the ban. The enemy had won—Linnaeus must leave.

But where should he go—what could he do? No college would receive him after his being compelled to leave Upsala for riot. He decided that if disgrace was to be his on account of revenge, he would have the revenge and accept the disgrace. He would kill Rosen on

sight and then either commit suicide or accept the consequences—it was all one! And so laying plans to waylay his victim, he fell asleep, and dreamed he had done the deed.

He awoke in a sweat of horror! He heard the officers at the door!

He staggered to his feet, and was making wild plans to fight the pursuers, when it occurred to him that he had only dreamed.

He sat down, faint, but mightily relieved.

Then he laughed, and it came to him that opposition was a part of the great game of life. To do a thing was to jostle others, and to jostle and be jostled was the fate of every man of power. "He that endureth unto the end shall be saved."

The world was before him—the flowers still bloomed, the plants nodded their heads in the meadows, the summer winds blew across the fields of wheat, the branches waved. He was strong—he could plant and plow, or dig ditches or hew lumber!

Some one was hammering on the door—they had been knocking for five minutes—ah! There had been no murder, so surely it was not the officers!

He arose and opened the door, murmuring apologies.

A letter for Carolus Linnaeus!

The letter was from Baron Reuterholm of Dalecarlia. It contained a draft for twenty-five pounds, "as a token of good faith," and begged that Linnaeus would accept charge of an expedition to survey the natural resources of Dalecarlia in the same way he had Lap-

land, only with more minuteness. Linnaeus read the letter again. The draft fluttered from his fingers to the floor. "Pick that up!" he ordered of the messenger. **Q** He wanted to see if the other man saw it, too. The other man picked it up—he was not dreaming after all!



HIS second expedition had two objects—one was the better education of Baron Reuterholm's two sons and the other the survey. One of these sons was at the University of Upsala and had conceived such an admiration for Linnaeus that he had

written home about him. No man knows what he is doing—we succeed by the right oblique—little did Linnaeus guess that he was preparing the way for great good fortune.

The second excursion was one of luxury. It lacked the hardship of the first, and involved the management of a party. Reuterholm was a rich Jewish banker, and a man in close touch with all Swedish affairs of state. This time Linnaeus was provided with ample funds. Linnaeus had a genius for system—a head for business. He classified men, and systematized his work like a general in the field. There were seven young naturalists in the party, and to each Linnaeus assigned a special work, with orders to hand in a written report of progress each evening. That the "Economist" or steward of the party was an American lends an especial note of interest for us. After Dalecarlia it was to be

America! ¶ In money matters he was punctilious & accurate, the result of his early training in making both ends meet. The habits of thrift, energy, industry and absolute honesty made him a marked man—there is not so very much competition along these lines.

The maps, drawings, measurements and the exact, short, sharp, military report turned in at regular intervals to the Baron won that worthy absolutely. Linnaeus was a business man as well as a naturalist.

It would require a book to tell of the glorious halfgypsy life of these eight young men, moving slowly through woods, across plains, over mountains and meadows, studying soil, rocks, birds, trees and flowers, collecting and making records. Camping at night by flowing streams, awakening with the dawn, cooking breakfast by the camp-fire in a silence that took up their shouts of laughter in surprise, and echoed them back from the neighboring hills!

At last the journey was ended. Linnaeus had proved his ability to teach—his animation, good cheer and friendly qualities brought his pupils very close to him.

¶ Reuterholm insisted that he should attach himself to the rising little college at Fahlun. There he met Dr. Moraeus, a man of much worth in a scientific way. At his house Linnaeus made his home. There was a daughter in the household, Sara Elizabeth, tall, slender, studious and appreciative. One of the Reuterholms had courted her, but in vain.

There were the usual results, and when Carolus and Sara Elizabeth came to old Dr. Moraeus hand in hand

for his blessing, he granted it as good men always do. Then the Doctor gave Linnaeus some good advice—go to Holland or somewhere and get a doctor's degree. The enemies at Upsala called Linnaeus "the gypsy scientist." Silence them—Linnaeus was a great man and the world would yet acknowledge it.

Sara Elizabeth agreed in all of the propositions.

Love, they say, is blind, but sometimes love is a regular telescope. This time love saw things that the learned men of Upsala failed to discover—their diagnosis was wrong.

Linnaeus had prepared a thesis on intermittent fever, and he was assured that if he presented this thesis at the medical school at Harderwijk, Holland, with letters from Baron Reuterholm and Dr. Moraeus, it would secure him the much desired M. D.

A few months, at most, would suffice. He could then return to Fahlun and take his place as a practicing physician and a professor in the college, marry the lady of his choice and live happy ever afterward.

So he started away southward.

He arrived at Harderwijk and read his thesis to the faculty. Instead of the callow youth, such as they usually dealt with, they found a practiced speaker who defended his points with grace and confidence. The degree was at once voted and a "cum laudus" thrown in for good measure.

Linnaeus was asked to remain and give a course of lectures on natural history. This he did.

Before going home he thought he would take a little

look in on Leyden, at that time the book-making and literary center of the world. At Leyden he met Gronovius, the naturalist, who asked him to remain and give lectures at the University. He did so, and incidentally showed Gronovius the manuscript of his book on the new system of botanic classification.

Gronovius was so delighted that he insisted on having the book printed by the Plantins at his own expense. Here was a piece of good fortune Linnaeus had not anticipated.

Linnaeus now settled down to read the proofs and help the work through the presses. But he neveridled an hour. He studied, wrote, lectured and made little excursions with his friends through the fields.

The book done, he hastened to send copies back to Fahlun to Sara Elizabeth, saying he must see Amsterdam and then go to Antwerp to visit his new found printer-friends there, and then home!

At Amsterdam he remained a year, living at the house of Burman, the naturalist.

The wealthy banker, Cliffort, first among amateur botanists of his day, invited Linnaeus to visit him at his country house at Hartecamp. Here he saw the finest garden he had ever looked upon.

Cliffort had copies of Linnaeus' book and he now insisted that the author should remain, catalog his collection and issue the book with the help of the Plantins, all without regard to cost.

It took a year to get the work out, but it yet remains one of the finest things ever attempted in a book-mak-

ing way on the subject of botany. **Q** About the same time, with the help of Cliffort, Linnaeus published another big book of his own called, "Fundamenta Botanica." **Q** This book was taken up at Oxford and used as a text book, in preference to Ray.

Linnaeus received invitations from England and was persuaded to take a trip across to that country.

He visited Oxford and London and was received by scientific men as a conquering hero. He saw Garrick act and heard George Frederick Handel, where the crowd was so great that a notice was posted requesting gentlemen to come without swords and ladies without hoops. Handel composed an aria in his honor.

Returning to Leyden, Linnaeus was urged by the municipality to remain and rearrange the public flower gardens and catalog the rare plants at the University. This took a year, in which three more books were issued under his skillful care.

He now started for home in earnest, by way of Paris with what a contemporary calls "a trunkful of medals." QParis, too, had honors and employment for the great botanist, but he escaped and at last reached Fahlun. QHe had been gone nearly four years, and during the interval had established his place in the scientific world as the first botanist of the time.

"It was love that sent me out of Sweden, and but for love I would never have returned," he wrote.

Linnaeus and Sara Elizabeth were married June 26, 1739 & 26

And now the unexpected happened—Upsala petitioned
56

Linnaeus to return, and the man who headed the petition was the one who had driven him away and who came near being killed for his pains.

LITTLE JOURNEYS

Linnaeus and his wife went to Upsala, rich, honored, beloved & &

Linnaeus shifted the scientific center of gravity of all Europe to a town, practically to them obscure, a thing they themselves scarcely realized.

Henceforth the life of Linnaeus flowed forward like a great and mighty river—everything made way for him. He was invited by the King of Spain to come to that country and found a School of Science, and so lavish were the promises that they surely would have turned the head of a lesser man. Universities in many civilized countries honored themselves by giving him degrees **

In 1761, the King of Sweden issued a patent of nobility in his honor and thereafter he was Carl von Linne. In England he was known as Sir Charles Linn.

Sainte Beuve, the eminent French critic, says that the world has produced only about half a dozen men who deserve to be placed in the first class. The elements that make up this super-superior man are high intellect which abandons itself to the purpose in hand, careless of form and precedent; indifference to obstacles and opposition; and a joyous, sympathetic, loving spirit that runs over and inundates everything it touches, all with no special thought of personal pleasure, gratification or gain.

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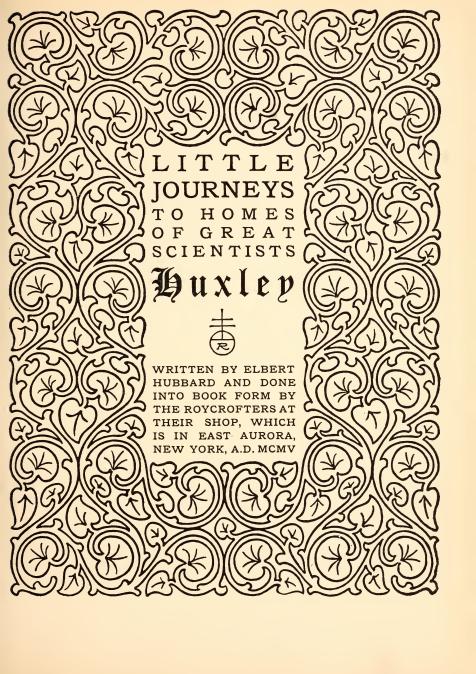
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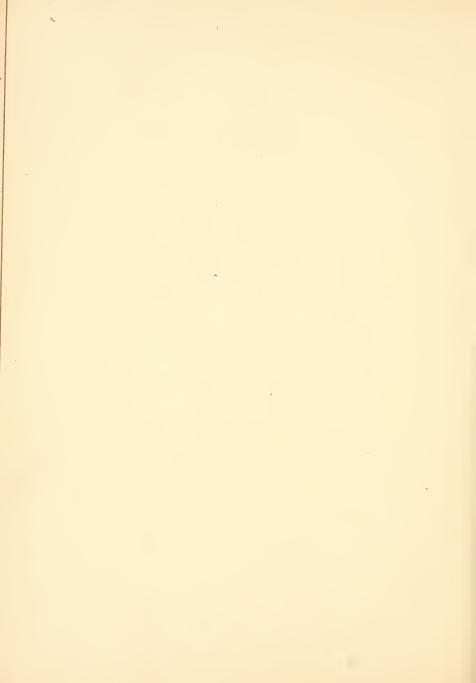
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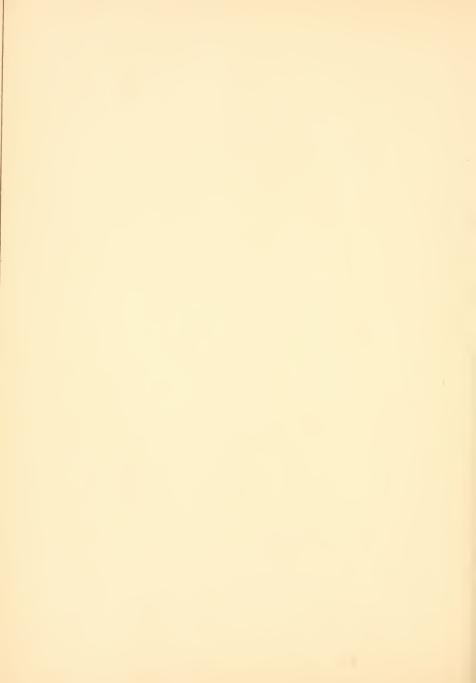
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THOMAS H. HUXLEY



HAT man, I think, has a liberal education whose body has been so trained in youth that it is the ready servant of his will, and does with ease and pleasure all that, as a mechanism, it is capable of; whose intellect is a clear, cold, logic engine, with all its parts of equal strength and in smooth running order, ready, like a steam engine, to be turned to any kind of work and to spin the gossamers as well as forge the anchors of the mind; whose mind is stored with the knowledge of the great fundamental truths of nature and the laws of her operations; one who, no stunted ascetic, is full of life and fire, but whose passions have been trained to come to heel by a vigorous will, the servant of a tender conscience; one who has learned to love all beauty, whether of nature or of art, to hate all vileness, and to esteem others as himself.

-THOMAS HENRY HUXLEY



HUXLEY

HAT was a great group of thinkers to which Huxley belonged. The Mutual Admiration Society forms the sunshine in which souls grow—great men come in groups & &

Sir Francis Galton says there were fourteen men in Greece in the time of Pericles, who made Athens possible. A man alone is only a part of a man.

Praxiteles by himself could have done nothing. Ictinus might have drawn the plans for the Parthenon, but without Pericles, the noble building would have remained forever the stuff which dreams are made of. And they do say that without Aspasia, Pericles would have been a mere dreamer of dreams, and Walter Savage Landor overheard enough of their conversation to prove it.

William Morris and seven men working with him formed the Pre-Raphaelite Brotherhood and gave the workers and doers of the world an impetus they yet feel. Concord and Cambridge had seven men who induced the Muses to come to America and take out papers.

These men of the Barbizon School tinted the entire art world: Millet, Rousseau,

Corot, Daubigny, Diaz. And the people who worked a revolution in the theological thought of Christendom were these: Darwin, Spencer, Mill, Tyndall, Wallace, Huxley, and yes, George Eliot who bolstered the brain of Herbert Spencer when he was learning to think for himself. When the victory had become a rout, there were many others joined forces with the evolutionists, but at first the thinkers named above stood together and received the unsavory gibes and jeers of those who got their episcopopagy and science from the same source.

Darwin was the only man in the group who was a university graduate, and he once said that he owed nothing to his alma mater, save the stimulus derived from its disapproval. For the work these men had to do there was no precedent-no one had gone before and blazed a trail. Learning, like capital, is timid, but ignorance coupled with a desire to know, is bold. Do I then make a plea for ignorance? Yes, most assuredly. It is just as well not to know so much, as to be a theologian and know so many things that are not true. Learning and institutions of learning subdue men into conformity; only the man who belongs to nothing is free; and ignorance as well as indifference to what the world has said and done, are necessary factors in the character of him who would do a great work. It was the combined ignorance and boldness of Columbus that made it possible for him to give the world a continent. (Yet the man who has not had a college training often feels he has missed something valuable-there is

timidity and hesitation when he is in the presence of those who have had "advantages." And Huxley felt this loss, more or less, up to his thirty-fifth year, when fate had him cross swords with college men, and then the truth became his that if he had had the regular university training, it was quite probable that he would have accepted the doctrines the universities taught, and would then have been in the camp of the "enemy" instead of with what he called "the blessed minority." Isolation is a great aid to the thinker. Some of the

best books the world has ever known were written behind prison bars; exile has done much for literature; and a protracted sea voyage has allowed many a good man to roam the universe in imagination. Some of Macaulay's best essays were written on board slowgoing sailing ships that were blown by vagrant winds from England to India.

Darwin, Hooker and Huxley all got their scientific baptism on board of surveying ships, where time was plentiful and anything but fleeting, and most everything else was scarce.

Huxley was only assistant surgeon on the "Rattlesnake," and above him was a naturalist who much of his time lay in his bunk, and read learned treatises on this and also that.

Huxley was the seventh child of a plodding schoolteacher, born on the seventh day of the week on a seventh floor back, he used to say. His genius for work, came from his mother, a tireless, ambitious woman who got things done while others were discussing

them. "Had she been a man, she would have been leader of the Opposition in the House of Commons," her son used to say.

College education was not for that goodly brood—a living was the first thing, so after a good drilling in the three R's, Thomas Huxley was apprenticed to a pharmacist who paid him six shillings a week, a sum that the boy conscientiously gave to his mother.

Oh, if in our school-teaching we could only teach this one thing: A great thirst for knowledge!

But this desire we cannot impart—it is trial, difficulty, obstacle, deprivation, that make souls hunger and thirst after knowledge.

Young Huxley wanted to know.

His thoroughness in the drug-store won the admiration of the doctors whose prescriptions he compounded, and several of them loaned him books, took him to clinics, and at seventeen we find him with a Free Scholarship to Charing Cross Hospital, serving as nurse and assistant surgeon.

Then came the appointment as assistant surgeon in the Navy, and the appointment to H.M.S. "Rattlesnake," bound on a four years' trip to the antipodes, all quite as a matter of course.

Life is a sequence—this happened to-day because you did that yesterday. To-morrow will be the result of to-day & &

The general idea of evolution was strong in the mind of young Huxley. He realized that Nature was moving, growing, changing all things. He had studied embry-

ology, and had seen how the body of a man begins as a single minute mass of protoplasm, without organs or dimensions **

Behind the ship was his drag-net and he worked constantly recording the different specimens of animal and vegetable life that he thus secured. The jellyfish attracted him most. To the ship's naturalist, jellyfish were jellyfish, but Huxley saw there were very many kinds, distinct, separate, peculiar. He began to dissect them and thus began his book on the jellyfish, just as Darwin wrote his work on barnacles.

Huxley vowed to himself that before the "Rattle-snake" got back to England he would know more about jellyfish than any other living man. That his ambition was realized no one now disputes.

Among his first discoveries it came to him with a thrill, that a certain species of jellyfish bears a very close resemblance to the human embryo at a certain stage. And he remembered the dictum of Goethe, that the growth of the individual mirrors the growth of the race. And he paraphrased it thus, "The growth of the individual mirrors the growth of the species." So filled was he with the thought, that he could not sleep, so he got up and paced the deck and tried to explain his great thought to the second mate. He was getting ready for "The Origin of Species," which he once said to Darwin he would himself have written, if Darwin had been a little more of a gentleman and held off for a few years. It was on board the "Rattlesnake" that Huxley wrote this:

"Nature has no designs nor intentions. All that live exist only because they have adapted themselves to the hard lines that Nature has laid down. We progress as we comply."



N Australia, while waiting for his ship to locate and map a dangerous reef, Huxley went ashore, and as he playfully expressed it, "ran upon another."

The name of the most excellent young woman who was to become his wife was

Henrietta Heathorn; and Julian Hawthorne has discovered that she belongs to the same good stock from whence came our Nathaniel of Salem.

It did not take the young naturalist and this stranded waif, seven thousand miles from home, long to see that they had much in common. Both were eager for truth —both had the ability to cut the introduction and reach live issues directly. "I saw you were a woman with whom only honesty would answer," he wrote her thirty years after. He was still in love with her.

Yet, she was a proud soul, and no assistant surgeon on an insignificant sloop would answer her—when he got his surgeon's commission she would marry him. And it was seven years before she journeyed to England alone with that delightful object in view. He had to serve for her as Jacob did for Rachel—with this difference: Jacob loved several, but Thomas Huxley loved but one.

Huxley's wife was his companion, confidante, comrade, friend. In all the annals of thinking men I cannot recall another so blest, save John Stuart Mill. "I tell her everything I know, or guess, or imagine, so to get it straight in my own mind," he said to John Fiske.

In that most interesting work, "Life and Letters of Huxley," compiled and edited by his son Leonard, are constant references and allusions to this most ideal mating. In reply to the question, Is marriage a failure? I would say, "No, provided the man marries a woman like Huxley's wife, and the woman marries a man like Huxley."



HERE is a classic aphorism which runs about this way, "Knock and the world knocks with you, boost and you boost alone."

Like most popular sayings this is truth turned wrong side out.

John Fiske once called Huxley an "appreciative iconoclast." That is to say, Huxley was a most persistent protester, (which is different from a protestant) and at the same time, he was a friend who never faltered and grew faint in time of trouble. Huxley always sniffed the battle from afar and said Ha! Ha!

There be those who do declare that the success of Huxley was owing to his taking the tide with the flood, and riding into high favor on the Darwinian wave. To say that there would have been no Huxley had there

been no Darwin, would be one of those unkind cuts, the cruelty of which lies in its truth.

It is equally true that if there had been no Lincoln there would have been no Grant; but Grant was a very great man, just the same—so why raise the issue!

Darwin summed up and made nebulæ of the truths which Huxley had, up to that time, held only in gaseous form.

Darwin was born in the immortal year 1809. Huxley was born in 1825. When "The Origin of Species" was published in 1859, Huxley was thirty-four years old. He had made his four years' trip around the world on the surveying ship "Rattlesnake," just as Darwin had made his eventful voyage on the "Beagle."

These men in many ways had paralleled each other, but Darwin had sixteen years the start, and during these years he had steadily and silently worked to prove the great truth that he had sensed intuitively years before, in the South Seas.

"The Origin of Species" sheds light in ten thousand ways on the fact that all life has evolved from very lowly forms and is still ascending—that species were not created by fiat, but that every species was the sure and necessary result of certain conditions.

Until "The Origin of Species" was published, and for some years afterward, the Immutability of Species was taught in all colleges, and everywhere accepted by the so-called learned men.

Gethe had dimly prophesied the discovery of the Law of Evolution, but his ideas on natural science were

regarded by the schools as quite on a par with those of Dante—neither was taken seriously.

Darwin proved his hypothesis.

Doubtless, very many school-men would have accepted the theory, but to admit that man was not created outright, complete, and in his present form—or superior to it—seemed to involve a contradiction of the Mosaic account of creation, and the breaking up of Christianity. And these things done, many thought, would entail moral chaos; destruction of private interests and moral confusion being one and the same thing to those whose interests are involved.

And so for conscience sake, Darwin was bitterly assailed and opposed.

Opportunity, which knocks many times at each man's door, rapped at Huxley's hard in 1860. It was at Oxford, at the meeting of the British Association for the Advancement of Science—"A big society with a slightly ironical name," once said Huxley.

The audience was large and fashionable, delegates being present from all parts of the British Empire.

"The Origin of Species" had been published the year before, and tongues were wagging. Darwin was not present, but Huxley, who was known to be a personal friend of Darwin, was in his seat. The intent of the chairman was to keep Darwin and his pestiferous book out of all the discussions—Darwin was a good man to smother with silence.

But Samuel Wilberforce, Bishop of Oxford, in the course of a speech on another subject, began to run

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LITTLE JOURNEYS

short of material, and so switched off upon a theme which he had already exploited from the pulpit with marked effect. All public speakers carry this boiler-plate matter for use in time of stress.

The Bishop began to denounce "those enemies of the Church and Society who make covert attacks upon the Bible in the name of science." He warmed to his theme, and by a specious series of misstatements and various appeals to the prejudices of his audience, worked the assemblage up to a high pitch of hilarity and enthusiasm. Toward the close of his speech he happened to spy Huxley seated near, and pointing a pudgy finger at him, 'begged to be informed if the learned gentleman was really willing to be regarded as the descendant of a monkey?"

As the Bishop sat down there was a wild burst of applause and much laughter, but amid the din were calls, "Huxley! Huxley!" These shouts increased as it came over the people that while the Bishop had made a great speech, he had gone a trifle too far in ridiculing a member, who up to this time had been silent. The good English spirit of fair play was at work.

Still Huxley sat silent.

Then the enemy thinking he was vanquished, took up the cry with intent to add to his discomfiture—"Huxley! Huxley!"

Slowly Huxley arose. He stood still until the last buzzing whisper had died away. When he spoke it was in so low a tone that people leaned forward to catch his words **

Huxley knew his business—his slowness to speak created an atmosphere. There was no jest in his voice or manner. The air grew tense.

His quiet reserve played itself off against the florid exuberance of the Bishop. The Bishop was not a man given to exact statements—his knowledge of science was general, not specific.

Huxley demolished his card house point by point, correcting the gross misstatements, and ending by saying that since a question of personal preferences had been brought into the discussion of a great scientific theme, he would confess that if the alternatives were a descent on the one hand from a respectable monkey, or on the other from a bishop of the Church of England who could stoop to misrepresentation and sophistry, and who had attempted in that presence to throw discredit upon a man who had given his life to the cause of science, then if forced to decide he would declare in favor of the monkey.

When Huxley took his seat there was a silence that could be felt.

Several ladies fainted. There were fears that the Bishop would reply, and to keep down such a possible unpleasant move the audience now applauded Huxley roundly, and amid the din the chairman declared the meeting adjourned.

From that time forward Huxley was famous throughout England as a good man to let alone in public debate.



T is a fine thing to be a great scientist, but it is a yet finer thing to be a great man.

The one element in Huxley's life that makes his character stand out clear, sharp and well-defined, was his steadfast devotion to truth. The only thing he feared was

self-deception. When he uttered his classic cry in defense of Darwin, there was no ulterior motive in it; no thought that he was attaching himself to a popular success; no idea that he was linking his name with greatness & &

What he felt was true, he uttered; and the strongest desire of his soul was, that he might never compromise with error for the sake of mental ease, or accept a belief simply because it was pleasant.

Huxley once wrote this terse sentence of Gladstone: "It is to me a serious thing that the destinies of this great country should at present be to a great extent in the hands of a man, who, whatever he may be in the affairs of which I am no judge, is nothing but a copious shuffler in those that I do understand."

Gladstone crossed swords with Huxley, Spencer and Robert Ingersoll, and in each case his blundering intellect looked like a raft of logs compared with a steamboat that responds to the helm.

Gladstone was a man of action and silence is to such most becoming. He had a belief—that was enough—he should have hugged it close, and never stood up to explain it. Let us vary a simile just used: Lincoln once referred to an opponent as being "like a certain steam-

boat that ran on the Sangamon. This boat had so big a whistle that when she blew it, there was n't steam enough to make her run, and when she ran she could n't whistle."

Huxley, Spencer and Ingersoll all made Gladstone cut for the woods and cover his retreat in a cloud of words. Ingersoll once said that in replying to Gladstone, he felt like a man who had been guilty of cruelty to children ***

If one wants to see how pitifully weak Gladstone could be in argument let him refer to the files of the "North American Review" for 1882-3.

Yet Ingersoll was surely lacking in the passion for truth that characterized Huxley. Ingersoll was always a prosecutor or a defender—the lawyer habit was strong upon him. Just a little more bias in his clay and he would have made a model bishop. His stock of science was almost as meagre as was that of Samuel Wilberforce, and he seldom hesitated to turn the laugh on an adversary even at the expense of truth.

When brought to book for his indictment of Moses without giving that great man any credit for the sublime things he did do, or making allowances for the barbaric horde with which he had to deal, Bob evaded the proposition by saying, "I am not the attorney of Moses—he has more than three million men looking after his case."

Again in that most charming lecture on Shakespeare, Ingersoll proves that Bacon did not write the plays by picking out various detached passages of Bacon, which

no one for a moment ever claimed revealed the genius of the man. With equal plausibility we could prove that the author of Hamlet was a weakling by selecting all the obscure and stupid passages, and parading these with the unexplained fact that the play opens with the spirit of a dead man coming back to earth, and a little later in the same play Shakespeare has the man who interviewed the ghost tell of "that bourne from whence no traveller returns." Even Shakespeare was not a genius all the time, and Ingersoll the searcher for truth, borrowed from his friends the priests, the cheerful habit of secreting the particular thing that would not help the cause in hand.

But one of the best things in Ingersoll's character was that he realized his lapses and in private acknowledged them. On reading of the smooth, florid and plausible sophistry of Wilberforce, Ingersoll once said, "Be easy on Soapy Sam! A few years ago, a little shifting of base on the part of my ancestors, and I would have had Soapy Sam's job."

This resemblance of opposites makes one think of that remark applied to Voltaire, "He was the father of all those who wear shovel hats."



HEN Thomas Huxley and his wife arrived in New York in 1876, on a visit to the Centennial Exhibition, this interesting item was flashed over the country, "Huxley and his titled bride have arrived in New York on their wedding journey."

This item caused Mr. and Mrs. Huxley, both royal democrats, more joy than did the most complimentary interview. At home they had left a charming little brood of seven children, three of them nearly grown-ups.

Huxley sent Tyndall, who a few months before had married a daughter of Lord Hamilton, the clipping and this note, "You see how that once I am in a democratic country I am pulling all the honors I can in my own direction."

The next letter the Huxleys received from Tyndall was addressed, "Sir Thomas and Lady Huxley."

Huxley never stood in much awe of the nobility—he evidently felt that there was another kind of which he himself in degree was heir. Huxley never had a better friend than Sir Joseph Hooker, and we see in his letters such postscripts as this: "Dear Sir Joseph—Do come and dine with us—it is a month since we have seen your homely old phiz."

And Sir Joseph replies that he will be on hand the next Sunday evening and offers this mild suggestion, "Scientific gents as has countenances as curdles milk, should not cast aspersions on men made in image of Maker."

HE little wordy duel between Huxley and Gladstone prompted Toole the comedian, to send a box of grease paints to Huxley with a note saying, "These are for you and Gladstone to use when you make up."

It was a joke so subtle and choice that

the Huxleys, always dear friends of Toole, laughed for a week. Poor Gladstone required a diagram when he heard of the procedure; and then not being trepanned for the pleasantry, remarked that if Toole and Huxley collaborated on the stage, it would be eminently the proper thing, as in his mind there was little choice between them, both being fine actors.

Later, we hear of Huxley saying he thought of sending the box of grease paints to Gladstone, so the Premier could use them in making up with God; as for himself, he was like Thoreau and had never quarreled with Him. Q Huxley had many friendships with people seemingly outside of his own particular line of work. Henry Irving, Rev. Dr. Parker, John Fiske and Hall Caine once met at one of Huxley's "Tall Teas," and Dr. Parker explained that he personally had no objection to visiting with sinners. For Parker, Huxley had a great admiration and often attended the Thursday noon meeting at the Temple "to see and hear the greatest actor in England," a compliment which Parker much appreciated, otherwise, he would not have repeated it.

"If I ever take to the stage, I will play the part of Jacques or Touchstone," said Huxley.

John Fiske in his delightful essay on Huxley said that

in the Huxley home there was more jest, jokes and banter than in any other place in London. The air was surcharged with mirth, and puns, often very bad ones, were tossed back and forth with great recklessness. **Q** At one time John Fiske was at the Huxleys and the dual or multiple nature of man came up for discussion. Huxley spoke of how very often men who were gentle and charming in their homes were capable of great crimes, and of how, on the other hand, a man might pass in the world as a philanthropist, and yet in his household be a veritable autocrat and tyrant.

Fiske then incidentally mentioned the case of Doctors Parkman and Webster of Harvard—men of intellect and worth. These men brooded over a misunderstanding that grew into a grudge and eventually hatched murder. One worthy professor killed the other, cut up the body and tried to burn it in a chemist's retort. Only the great difficulty of reducing the human body to ashes caused the murder to out, and brought about the hanging of a scientist of note.

"Yes, I have thought of the difficulty of disposing of a dead body," said Huxley, solemnly, "and often when on the point of committing murder this was the only thing that made me hesitate!"

"Oh, Pater, we are ashamed of you," said his three lovely daughters in concert. ¶ Huxley's ability to joke and his appreciation of the ludicrous marked him, in the mind of Fiske, as the greatest thinker of his time. The humorist knows values, and that is why he laughs. Sensibility is the basic element of wit.



UXLEY'S duties on the "Rattlesnake" were not in the line of science. His rank was assistant surgeon, but as sure-enough surgeons were only sent out on bigger craft he was this ship's doctor. With the captain's help the men were kept busy,

but not too busy, and the food and regulations were such that about all Huxley had to do was to look upon his work and pronounce it good.

As a physician, Huxley practiced throughout his life the science of prevention.

"With a fine prophetic vision, quite unconscious, my parents named me after that particular apostle I was to admire most," once said Huxley. He was a doubter by instinct, and approached the world of nature as if nothing were known about it.

His work on the Medusa won him the recognition of the British Society, and this secured him the coveted surgeon's commission. Two tragedies confront man on his journey through life—one when he wants a thing and cannot get it; the other when he gets the thing and finds he does not want it.

Having secured his surgeon's commission, Huxley felt a strong repulsion toward devoting his life to the abnormal. "I am a scientist by nature, and my business is to teach," he wrote to his affianced wife. These were wise words which he had learned from her, but which he repeated, seemingly quite innocent of their source. We take our own wherever we find it.

Miss Heathorn admired a surgeon, but loved a scientist,

and Huxley being a man was making a heroic struggle to be what the young woman most wished. Love supplies an ideal—and that is the very best thing love does, with possibly an exception or two. LITTLE JOURNEYS

So behold a ship's surgeon in London, full-fledged, refusing offers of position, and even declining to take a choice of ships, for such is the perversity of things animate and inanimate, that when we do not want things, fate brings them on silver platters and begs us to accept. We win by indifference as much as by desire. ¶"I have declined to ship on board the 'Cormorant' as head surgeon, and have applied to the University of Toronto for a position as Professor of Natural History."

And so America had Huxley flung at her head: and Toronto considered, and the Canadians sat on the case, and after considerable correspondence, the vacant chair was given to Professor Baldini of the Whitby Ladies College. It was a close call for Canada! Huxley had imagined that the new world offered special advantages to a rising young person of scientific bent, but now he secured a marriage license and settled down as lecturer at the School of Mines. A little later he began to teach at the Royal College of Surgeons; with which institution he was to be connected the rest of his life, and fill almost any chair that happened to be vacant.

From his twenty-seventh year Huxley never had to look for work. He was known as a writer of worth and as a lecturer his services were in demand. He became

president of the Geological and Ethnological Society, was appointed Royal Commissioner for the advancement of Science; was a member of the London School Board; Secretary of the Royal Society; Lord Rector of the University of Aberdeen; President of the Royal Society; and refused an offer to become Custodian of the British Museum, a life position, and where he had once applied for a clerkship.

In letters to Darwin he occasionally signed his name with all titles added, thus, "Thomas Henry Huxley, M. B., M. D., Ph. D., LL. D., F. R. S. of Her Majesty's Navy."

Huxley was a forceful and epigrammatic writer, and had a command of English second to no scientist that England has ever produced. He was the only one of his group who had a distinct literary style.

As a speaker he was quiet, deliberate, decisive—sure, and carried enough reserve caloric, so that he made his presence felt in any assemblage before he said a word. In oratory it is personality that gives ballast.

Of his forty-or-so published books, "Man's Place in Nature," "Elementary Physiology" & "Classification of Animals," have been translated into many languages; and now serve as text-books in various schools and colleges & &

Huxley is the founder of the so-called Agnostic School, which has the peculiarity of not being a school. The word "agnostic" was given its vogue by Huxley. To superficial people it was often used synonymously with "infidel" and "freethinker," both words of reproach.

To Huxley it meant simply one who did not know and acknowledged he did not know, but wished to learn. The controlling impulse of Huxley's life was his absolute honesty—to pretend to believe a thing against which one's reason revolts, in order to better one's place in society, was to him the sum of all that was intellectually base.

LITTLE JOURNEYS

He regarded man as an undeveloped creature, and for this creature to lay the flattering unction to his soul that he was in special communication with the Infinite, and in possession of the secrets of the Creator, these things in themselves marked man as yet in the barbaric stage * *

Said Huxley, "As to the final truths of creation and destiny, I am an agnostic—I do not know, hence I neither affirm nor deny."

(DISTRANSDISTRANSDIKA)

UMOR and common sense usually go together. Huxley had a goodly stock of both.

When George Eliot died there was a very earnest, but ill-directed effort made to have her body buried in Westminster Abbey. Huxley, being close to the Dean, serving with him on several municipal boards, was importuned by Spencer to use his influence toward the desired end. Huxley saw the incongruity of the situation, and in a letter that reveals the logical mind and the direct, literary, Huxley quality, he placed his gentle veto on the proposition and thus saved the "enemy" the

mortification of having to do so. **Q** Darwin is buried in Westminster Abbey, but this was not to be the final resting place of the dust of Mill, Tyndall, Spencer, George Eliot or Huxley. These had all stood in the fore of the fight against superstition and had given and received blows. The Pantheon of such battlescarred heroes was to be the hearts of those who prize above all that earth can bestow the benison of the God within. "Above all else, let me preserve my integrity of intellect," said Huxley.

Here is Huxley's letter to Spencer:

4 Marlborough Place, Dec. 27, 1880.

My dear Spencer—Your telegram which reached me on Friday evening caused me great perplexity, inasmuch as I had just been talking to Morley, and agreeing with him that the proposal for a funeral in Westminster Abbey had a very questionable look to us, who desired nothing so much as that peace and honour should attend George Eliot to her grave.

It can hardly be doubted that the proposal will be bitterly opposed, possibly (as happened in Mill's case with less provocation), with the raking up of past histories, about which the opinion even of those who have least the desire or the right to be pharisaical is strongly

divided, and which had better be forgotten.

With respect to putting pressure on the Dean of Westminster, I have to consider that he has some confidence in me, and before asking him to do something for which he is pretty sure to be violently assailed, I have to ask myself whether I really think it a right thing for a man in his position to do.

Now I cannot say I do. However much I may lament the circumstance, Westminster Abbey is a Christian

Church and not a Pantheon, and the Dean thereof is officially a Christian priest, and we ask him to bestow exceptional Christian honours by this burial in the Abbey. George Eliot is known not only as a great writer, but as a person whose life and opinions were in notorious antagonism to Christian practice in regard to marriage, and Christian theory in regard to dogma. How am I to tell the Dean that I think he ought to read over the body of a person who did not repent of what the Church considers mortal sin, a service not one solitary proposition of which she would have accepted for truth while she was alive? How am I to urge him to do that which, if I were in his place, I should most emphatically refuse to do?

You tell me that Mrs. Cross wished for the funeral in the Abbey. While I desire to entertain the greatest respect for her wishes, I am very sorry to hear it. I do not understand the feeling which could create such a desire on any personal grounds, save those of affection, and the natural yearning to be near, even in death, those whom we have loved. And on public grounds the wish is still less intelligible to me. One cannot eat one's cake and have it too. Those who elect to be free in thought and deed must not hanker after the rewards, if they are to be so called, which the world offers to those who put up with its fetters.

Thus, however I look at the proposal, it seems to me to be a profound mistake, and I can have nothing to do with it.

I shall be deeply grieved if this resolution is ascribed to any other motives than those which I have set forth at greater length than I intended.

Ever yours very faithfully,

T. H. HUXLEY.

Your Favorite Immortal

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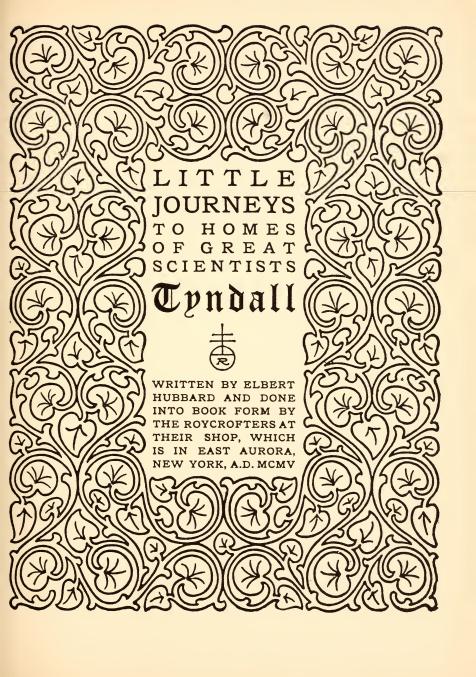
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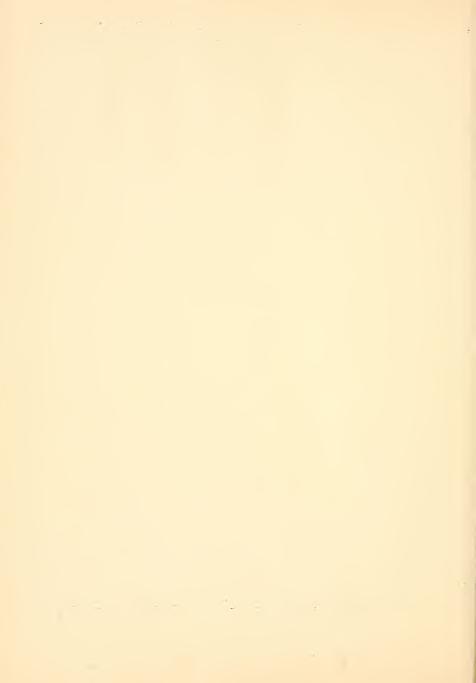
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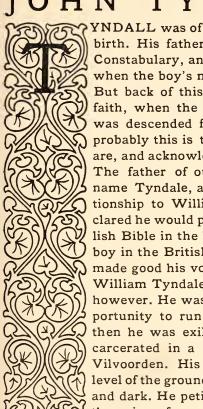
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JOHN TYNDALL



YNDALL was of high descent and lowly birth. His father belonged to the Irish Constabulary, and there were intervals when the boy's mother took in washing. But back of this the constable swore i' faith, when the ale was right, that he was descended from an Irish King, and probably this is true for most Irishmen are, and acknowledge it themselves.

The father of our Tyndall spelled his name Tyndale, and traced a direct relationship to William Tyndale who declared he would place a copy of the English Bible in the hands of every ploughboy in the British Isles, & pretty nearly made good his vow.

William Tyndale paid for his privileges, however. He was arrested, given an opportunity to run away, but would n't; then he was exiled. Finally he was incarcerated in a dungeon of the Castle Vilvoorden. His cell was beneath the level of the ground, so was cold and damp and dark. He petitioned the governor of the prison for a coat to keep him warm and a candle by which he could read. "We'll give you both light and heat, pretty soon," was the reply.

And they did. **Q** They led Tyndale out under the blue sky and tied him to a stake set in the ground. Around his feet they piled brush, and also all of his books and papers that they could find. A chain was put around his neck and hooked tight to the post. The fagots were piled high, and the fire was lighted **

"He was not burned to death," argued one of the priests who was present-"he was not burned to death, he just drew up his feet and hanged himself in the chain, & so was choked—he was that stubborn!" I The father of John Tyndall was an Orangeman and had in a glass case a bit of the flag carried at the Battle of the Boyne. It is believed, with reason, that the original flag had in it about ten thousand square yards of material. Tyndale the Orangeman was of so uncompromising a type, that he occasionally arrested Catholics on general principles, like the Irishman who beat the Jew under the mistaken idea that he had something to do with crucifying "Our Saviour." "But that was two thousand years ago," protested the Jew. O" Niver moind-I just heard av it-take that and that!"

Zeal not wisely directed is a true Irish trait. It will not do to say that the Irish have a monopoly on stupidity, yet there have been times when I thought they nearly cornered the market.

I once had charge of a gang of green Irishmen at a lumber camp. I started a night school for their benefit, as their schooling had stopped at subtraction. One evening they got it into their heads that I was an

atheist. Things began to come my way. I concluded discretion was the better part of valor, and so took to the woods, literally. They followed me for a mile, and then gave up the chase. On the way home they met a man who spoke ill of me, and they fell upon him and nearly pounded his life out.

I never had to lick any of my gang-they looked after this themselves. On pay nights they all got drunk and fell upon each other-broken noses and black eyes were quite popular. Father Driscoll used to come around every month and have them all sign the pledge. That story about the Irishman who ate the rind of the watermelon "and threw the inside away," is true. That is just what the Irish do. Very often they are not able to distinguish good from bad, kindness from wrong, love from hate. Ireland has all the freedom she can use or deserves, just as we all have. What would Ireland do with freedom if she had it? Hate for England keeps peace at home. Home-rule would mean home rough-house-and a most beautiful argument it would be, enforced with shillalah logic. The spirit of Donnybrook Fair is there to-day as much as ever, and wherever you see a head, hit it, would be home-rule. Donnybrook is a condition of mind.

If England really had a grudge against Ireland and wanted to get even, she could not do better than to set her adrift.

But then the Irish impulsiveness sometimes leads to good, else how could we account for such men as O'Connor, Parnell, Burke, Goldsmith, Sheridan, John

Tyndall, Arthur Wellesley and all the other Irish poets, orators and thinkers who have made us vibrate with our kind.

Transplanted weeds produce our finest flowers.

The parents of Tyndall were intent on giving their boy an education. And to them, committing things to memory was education. William Tyndale gave the Bible to the people; John Tyndale would force it upon them. The book of Martyrs, the sermons of Jeremy Taylor and the Bible, little John came to know by heart. And he grew to have a fine distaste for all. Once, when nearly a man grown, he had the temerity to argue with his father that the Bible might be better appreciated, if a penalty were not placed upon disbelief in its divine origin. A cuff on the ear was the answer, and John was given until sundown to apologize.

He did not apologize.

And young Tyndale then vowed he would change his name to Tyndall and forever separate himself from a person whose religion was so largely mixed with brutality. But yet John Tyndale was not a bad man. He had intellect far above the average of his neighbors. He had the courage of his convictions. His son had the courage of his lack of convictions.

And the early drilling in the Bible was a good thing for young Tyndall. Bible legend and allusion color the English language, and any man who does not know his Bible well, can never hope to speak or write English with grace and fluency. Tyndall always knew and acknowledged his indebtedness to his parents,

and he also knew that his salvation depended upon getting away from and beyond the narrow confines of their beliefs and habits. Because a thing helps you in a certain period of your education, is no reason you should feed upon it forevermore. This way lies arrested development.

Life, like heat, is a mode of motion, and progress consists in discarding a good thing when you find a better.



CCASIONALLY Herbert Spencer used to spend a Sunday afternoon with the Carlyles at their modest home in Chelsea. At such times Jeannie Welsh would usually manage to pilot the conversational craft along smooth waters, but if she were not

present, hot arguments would follow, and finally a point would be reached when Carlyle and Spencer would simply sit and glare at each other.

"After such scenes I always thought less of two persons—Carlyle and myself," said Spencer "and so for many years I cautiously avoided Cheyne Row."

Then there was another man Spencer avoided, although for a different reason; this individual was John Tyndall & &

On the death of Tyndall, Spencer wrote, "There has just died the greatest teacher of modern times: a man who stimulated thought in old and young—every one he met—as no one else I ever knew did. Once we went together for a much needed rest, to the Lake Dis-

trict. Gossip, which has its advantages in that it can be carried on with no tax on one's intellectual powers, had no part in our conversation. Discussion of great themes began at once wherever Tyndall was. The atmosphere of the man was intensely stimulating—everybody seemed to become great and wise and good in his presence.

We walked on the shores of Windermere, climbed Rydal Mount, rowed across Lake Grasmere (leaving our names on the visitor's list), and all the time we dwelt upon high Olympus and talked. But alas! Tyndall's vivacity undid me—two days of his company, with two sleepless nights, and I fled him as I would a pestilence."

But Carlyle growled out one thing in Spencer's presence which Spencer often quoted. "If I had my own way," said Carlyle, "I would send the sons of poor men to college, and the sons of rich men I would set to work."

Manual labor in right proportion means mental development. Too much hoe may slant the brow, but hoe in proper proportion develops the cerebellum. **G** In the past we have had one set of men do all the work, and another set had all the culture—one hoes and another thirsts. There are whole areas of brain cells which are evolved only through the efforts of hand and eye, for it is the mind at last that directs all our energies. The development of brain and body go together—manual work is brain work. Too much brain work is just as bad as too much toil—the misuse of

the pen carries just as severe a penalty as the misuse of the hoe. And it is a great satisfaction to realize that the thinking world has reached a point where these propositions do not have to be proven.

There was a time when Spencer regretted that he had not been sent to college, instead of being set to work. But later he came to regard his experience as a surveyor and practical engineer as a very precious and necessary part of his education.

John Tyndall and Alfred Russel Wallace had an almost identical experience. In childhood John attended the village school for six months of the year, and the rest of the time helped his parents, as children of poor people do. When nineteen he went to work carrying a chain in a surveying corps. Steady attention to the business in hand brought its sure reward, and in a few years he had charge of the squad, and was given the duty of making maps and working out complex calculations in engineering. In mathematics he especially excelled.

Five years in the employ of the Irish Ordnance Survey and three years in practical railroad building, and Tyndall got the socialistic bee in his bonnet. He resigned a good position to take part in bringing about the millennium.

That he helped the old world along toward the ideal there is no doubt; but Tyndall is dead and Jerusalem is not yet. When the rule of the barons was broken, and the stage of individualism or competition was ushered in, men said, "Lo! The time is at hand and

now is." **Q** But it was not. Socialism is coming, by slow degrees, imperceptibly almost as the growing of spring flowers that push their way from the damp, dark earth into the sunlight.

And after socialism, what? perhaps the millennium will still be a long way off.

In 1847, when Tyndall was twenty-seven years old, Robert Owen, one of the greatest practical men the world has ever seen, cried aloud, "The time is at hand!"

Owen was an enthusiast—all great men are. He had risen from the ranks by the absolute force of his great, untiring, restless and loving spirit.

From a day laborer in a cotton mill he had become principal owner of a plant that supported five thousand people.

Robert Owen saw the difference between joyless labor and joyful work. His mills were cleanly, orderly, sanitary and surrounded with lawns, trees and shrubbery. He was the first man in England to establish kindergartens, and this he did at his own expense for the benefit of his helpers. He established libraries, clubs, swimming pools, night schools, lecture courses. **Q** And all the time his business prospered.

To the average man it is a miracle how any one individual could bear the heaviest business burdens and still do what Robert Owen did.

Robert Owen had vitality plus—he was a gourmet for work. William Morris was just such a man, only with a bias for art, but both Owen and Morris had the in-

tensity and impetus which get the thing done while common folks are thinking about it.

Owen was familiar with every detail of his vast business, and he was an expert in finance. Like Napoleon he said, "The finances? I will arrange them."

Robert Owen erected schoolhouses, laid out gardens, built mills, constructed tenements, traveled, lectured and wrote books.

His enthusiasm was contagious. He was never sick—he could not spare the time, and a doctor once said, "If Robert Owen ever dies, it will be through too much Robert Owen."

Owen went over to Dublin on one of his tours, and lectured on the ideal life, which to him was socialism, "each for all and all for each." Fourier, the dreamer, supplied a good deal of the argument, but Robert Owen did the thing. Socialism always catches these two classes, doers and dreamers—workers and drones—honest men and rogues—those with a desire to give and those with a lust to get.

Among others who heard Owen speak at Dublin was the young Irish engineer, John Tyndall.

Tyndall was the type of man that must be common before we can have socialism. There was not a lazy hair in his head—aye, nor a selfish one, either. He had a tender heart, a receptive brain and the spirit of obedience—the spirit that gives all without counting the cost—the spirit that harkens to the God within.

And need I say that the person who gives all, gets all! The economics of God are very simple: We receive

JOURNEYS

only that which we give. The only love we keep is the love we give away.

These are very old truths—I did not discover nor invent them—they are not covered by copyright—"Cast thy bread upon the waters."

Young Tyndall was melted by Owen's passionate appeal of each for all and all for each. To live for humanity seemed the one desirable thing. His loving Irish heart was melted.

He sought Owen out at his hotel, and they talked, talked till three o'clock in the morning.

Owen was a judge of men—his success depended upon this one thing, as that of every successful business must. He saw that Tyndall was a rare soul & nearly fulfilled his definition of a gentleman. Tyndall had hope, faith and splendid courage, but best of all he had that hunger for truth which classes him forever among the sacred few.

During his work out-of-doors on surveying trips he had studied the strata; gotten on good terms with birds, bugs and bees; he knew the flowers and weeds, and loved all the animate things of nature, so that he recognized their kinship to himself, and he hesitated to kill or destroy.

Education is a matter of desire, and a man like Tyndall is getting an education wherever he is. All is grist that comes to his mill.

Owen had but recently started "Queenswood College" in Hampshire, and nothing would do but Tyndall should go there as a teacher of science.

LITTLE

"Is he a skilled and educated teacher?" some one asked Owen.

"Better than that," replied Owen, "he is a regular firebrand of enthusiasm."

And so Tyndall resigned his position with the railroad and moved over to England, taking up his home at "Harmony Hall."

"Harmony Hall" was a beautiful brick building with the letters C. M. carved on the corner stone in recognition of the Commencement of the Millennium. The pupils were mostly workers in the Owen mills who had shown some special aptitude for education. The pupils and teachers all worked at manual labor a certain number of hours daily. There was a most delightful feeling of comradeship about the institution. Tyndall was happy in his work. He gave lectures on everything, and taught the things that no one else could teach, and of course he got more out of the lessons than any of the scholars.

But after a few months' experience with the ideal life, Tyndall had common sense enough to see that Harmony Hall, instead of being the spontaneous expression of the people who shared its blessings, was really a charity maintained by one Robert Owen. It was a beneficent autocracy—a sample of one-man power, beautifully expressed & &

Robert Owen planned it, built it, directed it and made good any financial deficit. Instead of socialism it was a kindly despotism. A few of the scholars did theirlevel best to help themselves and help the place, but

the rest didn't think and didn't care. They were passengers who enjoyed the cushioned seats. A few, while partaking of the privileges of the place, denounced it.

"You cannot educate people who do not want to be educated," said Tyndall. The value of an education lies in the struggle to get it. Do too much for people, and they will do nothing for themselves.

Many of the students at Harmony Hall had been sent there by Owen, because he, in the greatness of his heart and the blindness of his zeal, thought they needed education. They may have needed it, but they did not want it—ease was their aim.

The indifference and ingratitude Robert Owen met with did not discourage him—it only gave him an occasional pause. He thought that the bad example of English society was too close to his experiments—it vitiated the atmosphere.

So he came over to America and founded the town of New Harmony, Indiana. The fine solid buildings he erected in Posey County, then a wilderness, are still there. As for the most romantic and interesting history of New Harmony, Robert Owen and his socialistic experiments, I must refer the gentle reader to the Encyclopedia Brittanica, a work I have found very useful in the course of making my original researches &

After a year at Harmony Hall, Tyndall saw he would have to get out or else become a victim of arrested development, through too much acceptance of a strong

man's bounty. "You cannot afford to accept anything for nothing," he said. Life at Harmony Hall to him was very much like life in a monastery, to which stricken men flee when the old world seems too much for them. "When all the people live the ideal life, I'll live it, but until then I'm only one of the great many strugglers." Besides, he felt that in missing university training he had dropped something out of his life. Now he would go to Germany and see for himself what he had missed.

While railroading he had saved up nearly four hundred pounds. This money he had offered at one time to invest in shares in the Owen mills. But Robert Owen said, "Wait two years and then see how you feel!"

Robert Owen was no financial exploiter. Tyndall may have differed with him in a philosophic way, but they never ceased to honor and respect each other.

And so John Tyndall bade the ideal life good-bye, and went out into the stress, strife and struggle resolved to spend his two thousand dollars in bettering his education, and then start life anew.



OBERT OWEN had been over to America and met Emerson, and very naturally caught it. When he returned home he presented Tyndall a copy of Emerson's first book, the "Essay on Nature," published anonymously. Tyndall read and re-

read the book, and read it aloud to others and spoke of it as, "A message from the gods."

He also read every word that Carlyle put in print. It was Carlyle who introduced him to German philosophy and German literature, and fired him with a desire to see for himself what Germany was doing. ¶ Germany had still another mystic tie that drew him thitherward. It was at Marburg, Germany, that his illustrious namesake had published his translation of the Bible.

At Marburg there was a university, small, 't was true, but its simplicity and the cheapness of living there were recommendations.

So to Marburg he went. We think we do things because we choose, but all we really do is to succumb to attractions.

At Marburg, Tyndall found lodgings in a little street called "Heretic's Row." Possibly there be people who think that Tyndall's taking a room there was chance, too. Chance is natural law not understood.

Marburg is a very lovely little town that clings amid a forest of trees to the rocky hillside overlooking the River Lahn. Tyndall was very happy at Marburg—and at times very miserable.

The beauty of the place appealed to him. He was a climber by nature, and the hills were a continual temptation. But the language was new; and before this his work had all been of a practical kind. College seems small and trival after you have been in the actual world of affairs.

LITTLE

But Tyndall did not give up. He rose every morning at six, took his cold bath, dressed and ran up hill half a mile and back. He breakfasted with the family, that he might talk German. Then he dived into differential calculus and philosophical abstrusities.

He was not sent to college—he went. And he made college give up all it had. On the wall of his room, as a sort of ornamental frieze in charcoal, he wrote this from Emerson, "High knowledge and great strength are within the reach of every man who unflinchingly enacts his best."

Down in the town was a bronze bust of a man who wrote for it the following inscription, "This is the face of a man who has struggled energetically."

One might almost imagine that Hawthorne had received from Tyndall the hint which evolved itself into that fine story, "The Great Stone Face."

The bust just mentioned, attracted Tyndall for another reason: Carlyle had written of the man it symboled, "Reader, to thee, thyself, even now, he has one counsel to give, the secret of his whole poetic alchemy. Think of living! Thy life, were thou the pitifullest of all the sons of earth, is no idle dream, but a solemn reality. It is thy own; it is all thou hast with which to front eternity. Work, then, even as he has done,—like a star, unhasting and unresting."



T Marburg, Tyndall was on good terms with the great Bunsen, and used to act as his assistant in making practical chemical experiments before his classes . These amazing things done by chemists in public are seldom of much value beyond giv-

ing a thrill to visitors who would otherwise drowse—
it is like humor in an oration—it opens up the mental
pores & &

Alexander Humboldt once attended a Bunsen lecture at Marburg and complimented Tyndall by saying, "When I take up sleight-of-hand work, consider yourself engaged as my first helper." Tyndall's way of standing with his back to the audience, shutting off the view of Bunsen's hands while he was getting ready to make an artificial peal of thunder, made Humboldt laugh heartily.

Humboldt thought so well of the young man who spoke German with an Irish accent, that he presented him with an inscribed copy of one of his books. The volume was a most valuable one, for Humboldt only published in de luxe limited editions, and Tyndall was so overcome that all he could say was, "I'll do as much for you some day."

Not long after this, through loaning money to a fellow student, he found himself in need of funds, and borrowed two pounds on the book from an 'Ebrew Jew. ¶ That night, he dreamed that Humboldt found the volume in a second-hand store. In the morning, Tyndall was waiting for the pawnbroker to open his shop,

LITTLE

to get the book back ere his offense was discovered. **Q** Heinrich Heine once inscribed a volume of his poems to a friend, and afterward discovered the volume on the counter of a second-hand dealer. He thereupon haggled with the book man, bought the volume and beneath his first inscription wrote, "With the renewed regards of H. Heine." He then sent the volume for the second time to his friend. 'T is possible that Tyndall had heard of this.

In 1850, when Tyndall was thirty years of age, he visited London, and of course went to the British Institution. There he met Faraday for the first time and was welcomed by him.

The British Institution consists of a laboratory, a museum and a lecture hall, and its object is scientific research. It began in a very simple way in one room and now occupies several buildings. It was founded by Benjamin Thompson, an American, and so it was but proper that its sister concern, the Smithsonian Institute, should have been founded by an Englishman. (Sir Humphrey Davy on being asked, "What is your greatest discovery?" replied, "Michael Faraday." @But this was a mere pleasantry—the truth being that Michael Faraday discovered Sir Humphrey Davy. I Faraday was a bookbinder's apprentice, a fact that should interest all good Roycrofters. Evenings, when Sir Humphrey Davy lectured at the British Institution, the young bookbinder was there. After the lecture he would go home and write out what he had heard, with a few ideas of his own added. For be it

known, taking notes at a lecture is a bad habit—good reporters carry no note books.

After a year Faraday sent a bundle of his impressions and criticisms to Sir Humphrey Davy anonymously. Great men seldom read manuscript that is sent them unless it refers to themselves. At the next lecture, Sir Humphrey began by reading from Faraday's notes, and begged that if the writer was present, he would make himself known at the close of the address.

From this was to ripen a love like that of father and son. Every man who builds up such a work as Sir Humphrey Davy did, is appalled when he finds time furrowing his face and whitening his hair, to think how few indeed there are who can step in and carry this work on after he is gone.

The love of Davy for the young bookbinder was almost feverish—he clutched at this bright, impressionable and intent young man who entered so into the heart and soul of science—nothing would do but he must become his assistant. "Give up all and follow me." And Faraday did.

Something of the same feeling must have swept over Faraday after his twenty-five years work as director of the British Institution, when John Tyndall appeared, tall, thin, bronzed, animated—quoting Bunsen and Humboldt with an Irish accent.

And so in time Tyndall became assistant to Faraday; then lecturer of natural history, and when Faraday died, by popular acclaim, Tyndall was made Fullerian Lecturer and took Faraday's place.

This was to be his life work, and it so placed him before the world, that whatever he said or did had a wide significance and an extended influence.



YNDALL was a most intrepid mountain climber. The Alps lured him like the song of the Lorelei, and the wonder was that his body was not left in some mountain crevasse, "the most beautiful and poetic of all burials," he once said.

But for him this was not to be, for fate is fond of irony. The only man who ever braved the full dangers of the Grand Canyon of the Colorado was killed by a suburban train in Chicago while on his wedding tour. Most bad men die in bed tenderly cared for by trained nurses in white caps and big aprons. Tyndall climbed to the summit of the Matterhorn, ascended the so-called inaccessible peak of the Weisshorn, scaled Mount Blanc three times, and once was caught in an avalanche riding toward death at the rate of a mile a minute. Yet he passed away from an overdose, or a wrong dose of medicine given him through mistake, by the hands of the woman he loved most.

At one time Tyndall attempted to swim a mountain torrent; the stream as if angry with his Irish assurance, tossed him against the rocks, brought him back in fierce eddies, and again and again threw him against a solid face of stone. When he was rescued he was a mass of bruises, but fortunately no bones were broken.

It was some days before he could get out, and in his sorry plight, bandaged so his face was scarcely visible, Spencer found him. "Herbert, do you believe in the actuality of matter?" was his first question.

Both Tyndall and Huxley made application to the University of Toronto for positions as teachers of science; but Toronto looked askance, as all pioneer people do, at men whose college careers have been mostly confined to giving college absent treatment.

Herbert Spencer avowed again and again that Tyndall was the greatest teacher he ever knew or heard of—inspiring the pupil to discover for himself—to do—to become, rather than imparting prosy facts of doubtful pith and moment. But Herbert Spencer not being eligible to join a university club himself, was possibly not competent to judge. Anyway, England was not so finical as Canada, and so she gained what Canada lost **



N 1872, Tyndall visited the United States, and gave lectures in most of the principal cities, and at all of the great colleges. He was a most fascinating speaker, fluent, direct, easy, and his whole discourse was well seasoned with humor.

Whenever he spoke the auditorium was taxed to its utmost, and his reception was very cordial, even in colleges that were considered as exceedingly orthodox. **Q** Possibly, some good people who invited him to

speak did not know it was loaded: and so his earnest words in praise of Darwin and the doctrine of evolution, occasionally came like unto a rumble of his own artificial thunder. "I speak what I think is truth, but of course, when I express ungracious facts I try to do so in what will be regarded as not a nasty manner," said Tyndall, thus using that pet English word in a rather pleasing way.

In his statement that the prayer of persistent effort is the only prayer that is ever answered, he met with a direct challenge at Oberlin. This gave rise to what, at the time, created quite a dust in the theological road, and evolved, "The Tyndall Prayer Test."

Tyndall proposed that one hundred clergymen be delegated to pray for the patients in any certain ward of Bellevue Hospital. If after a year's trial there was a marked decrease in mortality in that ward, as compared with previous records, we might then conclude that prayer was efficacious, otherwise not.

One good clergyman in Pittsburg offered to publicly debate "Darwinism" with Tyndall, but beyond a little scattered shrapnel of this sort, the lecture tour was a great success. It netted just thirteen thousand dollars, the whole amount of which Tyndall generously donated as a fund to be used for the advancement of natural science in America. In 1885, this fund had increased to thirty-two thousand dollars, and was divided into three equal parts and presented to Columbia, Harvard and the University of Pennsylvania. The fund was still further increased by others who followed

Professor Tyndall's example, and Columbia, from her share of the Tyndall fund, I am told, now supports two foreign scholarships for the benefit of students who show a special aptitude in scientific research. Professor James of Harvard once said, "The impetus to popular scientific study caused by Professor Tyndall's lectures in the United States was most helpful and fortunate. Speaking but for myself, I know I am a different man and a better man, for having heard and known John Tyndall."

HEN Tyndall died, in 1893, Herbert Spencer wrote this:

It never occurred to Tyndall to ask what it was politic to say, but simply to ask what was true. The like has of late years been shown in his utterances concerning political matters—shown, it may be, with too great frankness. This extreme frankness was displayed also in private, and sometimes, perhaps, too much displayed; but every one must have the defects of his qualities. Where absolute sincerity exists, it is certain now and then to cause an expression of a feeling or opinion not adequately restrained. But the contrast in genuineness between him and the average citizen was very conspicuous. In a community of Tyndalls (to make a wild supposition) there would be none of that flabbiness characterizing current thought and actionno throwing overboard of principles elaborated by painful experience in the past, and adoption of a handto-mouth policy unguided by any principle. He was not the kind of a man who would have voted for a bill

or a clause which he secretly believed would be injurious, out of what is euphemistically called "party loyalty," or would have endeavored to bribe each section of the electorate by ad captandum measures, or would have hesitated to protect life and property for fear of losing votes. What he saw right to do he would have done, regardless of proximate consequences.

The ordinary tests of generosity are very defective. As rightly measured, generosity is great in proportion to the amount of self-denial entailed; and where ample means are possessed, large gifts often entail no self-denial. Far more self-denial may be involved in the performance, on another's behalf, of some act which requires time and labor. In addition to generosity under its ordinary form, which Professor Tyndall displayed in unusual degree, he displayed it under a less common form & He was ready to take much trouble to help friends. I have had personal experience of this. Though he had always in hand some investigation of great interest to him, and though, as I have heard him say, when he bent his mind to a subject he could not with any facility break off and resume it again, yet, when I have sought scientific aid, information or critical opinion, I never found the slightest reluctance to give me his undivided attention. Much more markedly, however, was this kind of generosity shown in another direction. Many men, while they are eager for appreciation, manifest little or no appreciation of others, and still less go out of their way to express it. With Tyndall it was not thus; he was eager to recognize achievement. Notably in the case of Faraday, and less notably, though still conspicuously in many cases, he has bestowed much labor and sacrificed many weeks in setting forth the merits of others. It was evidently a pleasure to him to dilate on the claims of fellow-workers.

But there was a derivative form of this generosity calling for still greater eulogy. He was not content with expressing appreciation of those whose merits were recognized, but he used energy unsparingly in drawing public attention to those whose merits were unrecognized; and time after time in championing the cause of such, he was regardless of the antagonism he aroused and the evil he brought upon himself. This chivalrous defense of the neglected and ill-used has been, I think by few, if any, so often repeated. I have myself more than once benefited by his determination, quite spontaneously shown, that justice should be done in the apportionment of credit; and I have with admiration watched like actions of his in other cases—cases in which no consideration of nationality or of creed interfered in the least with his insistence on equitable distribution of honors.

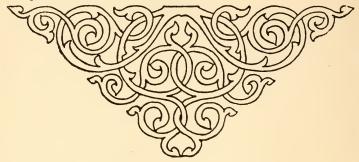
In this undertaking to fight for those who were unfairly dealt with, he displayed in another direction that very conspicuous trait which, as displayed in his Alpine feats, has made him to many persons chiefly known-I mean courage, passing very often into daring. And here let me, in closing this sketch, indicate certain mischiefs which this trait brought upon him. Courage grows by success. The demonstrated ability to deal with dangers, produces readiness to meet more dangers, and is self-justifying where the muscular power and the nerve habitually prove adequate. But the resulting habit of mind is apt to influence conduct in other spheres, where muscular power and nerve are of no avail—is apt to cause the daring of dangers which are not to be met by strength of limb or by skill. Nature as externally presented by precipice ice-slopes and crevasses may be dared by one adequately endowed; but nature, as internally represented in the form of physical constitution, may not be thus dared

with impunity. Prompted by high motives, Tyndall tended too much to disregard the protests of his body. Over-application in Germany caused at one time absolute sleeplessness for, I think he told me, more than a week; and this, with kindred transgressions, brought on that insomnia by which his after-life was troubled, and by which his power for work was diminished; for, as I have heard him say, a sound night's sleep was followed by a marked exaltation of faculty.

And then, in later life, came the daring which, by its results, brought his active career to a close. He conscientiously desired to fulfill an engagement to lecture at the British Institution, and was not deterred by fear of consequences. He gave the lecture, notwithstanding the protest which for days before his system had been making. The result was a serious illness, threatening, as he thought at one time, a fatal result; and notwithstanding a year's furlough for the recovery of health, he was eventually obliged to resign his position. But for this defiance of nature there might have been many more years of scientific exploration, pleasurable to himself and beneficial to others; and he might have escaped that invalid life which for a long time he had to bear.

In his case, however, the penalties of invalid life had great mitigations—mitigations such as fall to the lot of few. It is conceivable that the physical discomforts and mental weariness which ill-health brings may be almost compensated, if not even quite compensated, by the pleasurable emotions caused by unflagging attentions and sympathetic companionship. If this ever happens, it happened in his case. All who have known the household during these years of nursing are aware of the unmeasured kindness he has received without ceasing. I happen to have had special evidence of this devotion on the one side and gratitude on the other,

which I do not think I am called upon to keep to myself, but rather to do the contrary. In a letter I received from him some half-dozen years ago, referring, among other things, to Mrs. Tyndall's self-sacrificing care of him, he wrote: "She has raised my ideal of the possibilities of human nature."



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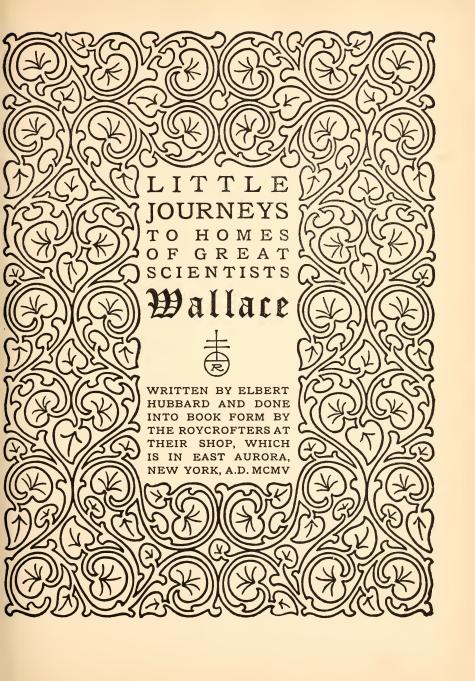
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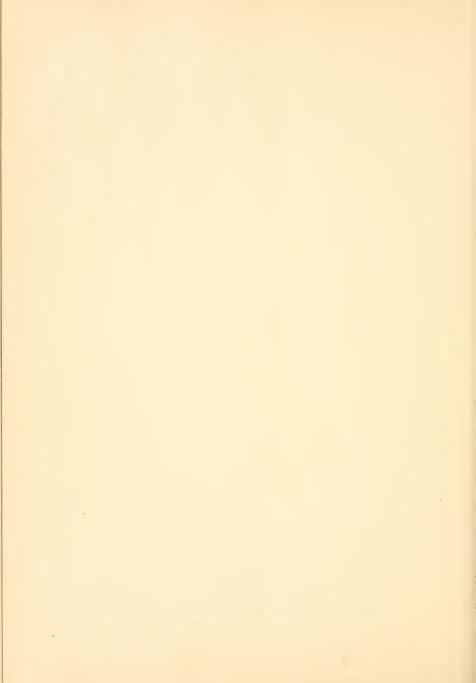
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ALFRED R. WALLACE



MOK" is an innovation which I do not recommend. It consists in letting go when things get too bad, and doing damage with tongue, hands and feet. It is the tantrum carried to its logical conclusion. I saw one instance where a hen-pecked husband "ran amok" and killed or wounded seventeen people before he himself was killed. It is the national, and therefore the honourable mode of committing suicide among the natives of Celebes, and is the fashionable way of escaping from their difficulties. A man cannot pay, he is taken for a slave, or has gambled away his wife or child into slavery, he sees no way of recovering what he has lost, and becomes desperate. He will not put up with such cruel wrongs, but will be revenged on mankind and die like a hero. He grasps his knife, and the next moment draws out the weapon and stabs a man to the heart. He runs on with bloody kris in his hand, stabbing every one he meets. "Amok! Amok!" then resounds through the streets. Spears, krises, knives, guns and clubs are brought out against him. He rushes madly forward, kills all he can-men, women and children-and dies, overwhelmed by numbers, amid all the excitement of a battle.

-ALFRED RUSSEL WALLACE.

in "The Malay Archipelago."



ALFRED R. WALLACE

HE question of how this world and all the things in it were made has, so far as we know, always been asked.

And volunteers have never been slow about coming forward and answering.

about coming forward and answering. **Q** For this service the volunteer has usually asked honors and also exemption from unpleasant toil. He has also demanded the joy of riding in a coach, being carried in a palanquin and sitting on a throne clothed in purple vestments trimmed with gold lace or costly furs. Very often the volunteer has also insisted on living in a house larger than he needed, having more food than his system required, and drinking decoctions that are costly, spicy and peculiar.

All of which luxury has been paid for by the people who are told that which they wish to hear.

The success of the volunteer lies in keeping one large ear close to the turf. • Religious teachers have ever given to their people a cosmogony that was adapted to their understanding.

Who made it?
God made it all.
In how long a time?

Six days. **Q** And then followed explanations of what God did each day.

Over against the volunteers with a taste for power and a fine cork-screw discrimination there have been at rare intervals men with a desire to know for the sake of knowing. They were not content to accept any man's explanation. The only thing that was satisfying to them was the consciousness that they were inwardly right. Loyalty to the God within was the guiding impulse of their lives.

In the past, such men have been regarded as eccentric, unreliable and dangerous, and the volunteers have ever warned their congregations against them.

Indeed, until a very few years ago they were not allowed to express themselves openly. Laws have been passed to suppress them, and dire penalties have been devised for their benefit. Laws against sacrilege, heresy and blasphemy still ornament our statute books, but these invented crimes that were once punishable by death, are now obsolete, or only exist in rudimentary forms and manifest themselves in a refusal to invite the guilty party to our Four-o'Clock. This hot intent to support and uphold the volunteers in their explanations of how the world was made, is a universal manifestation of the barbaric state, and is based upon the assumption that God is an infinite George IV. I Six hundred years before Christ, Anaximander, the Greek, taught that animal life was engendered from the earth through the influence of moisture and heat, and that life thus generated gradually evolved into

higher and different forms; all animals once lived in the water, but some of them becoming stranded on the land, put forth organs of locomotion and defense, through their supreme resolve to live. Anaximander also taught that man was only a highly developed animal, and his source of life was the same as that of all other animals; man's present high degree of development having gradually come about through growth from very lowly forms.

Anaxagoras, schoolmaster of Pericles, also made similar statements, and then we find him boldly putting forth the very startling idea that between the highest type of Greek and the lowest type of savage there was a greater difference than between the savage and the ape. He also taught that the earth was the universal mother of all living things, animal and vegetable, and that the fecundation of the earth took place from minute, unseen germs that floated in the air.

According to modern science Anaxagoras was very close upon the trail of truth. But there were only a very few who could follow him, and it took the combined eloquence and tact of Pericles to save his splendid head in the place where nature put it, and Pericles himself was compromised by his leaning toward "Darwinism."

Every man who speaks, expresses himself for others. We succeed only as our thought is echoed back to us by others who think the same. If you like what I say it is only because it is already yours. Moreover, thought is a collaboration, and is born of parents. If a teacher

does not get a sympathetic hearing, one of two things happens—he loses the thread of his thought and grows apathetic, or he arouses an opposition that snuffs out his life.

And the dead they soon grow cold.

The recipe for popularity is to hunt out a weakness of humanity and then bank on it. No one knows this better than your theological volunteer.

Aristotle, the father of natural history, who early in life had a Pegasus killed under him, taught that the diversity in animal life was caused by a diversity of conditions and environment, and he declared he could change the nature of animals by changing their surroundings. This being true he argued that all animals were once different from what they are now, and that if we could live long enough, we would see that species are exceeding variable.

To explain to child-minds that a Supreme Being made things outright just as they are is easy, but to study and in degree know how things evolved, requires infinite patience and great labor. It also means small sympathy from the indifferent whom the earth has spawned in swarms, and the hatred of the volunteers who ride in coaches, and tell the many what they wish to hear. It will be the volunteers drove Aristotle into exile, and from his time they had their way for two thousand years, when John Ray, Linnæus and Buffon appeared.

In 1755, Immanuel Kant, the little man who stayed near home and watched the stars tumble into his net, put forth his theory that every animal organism in the

world was developed from a common original germ. **Q**In 1794, Erasmus Darwin, grandfather of Charles Darwin, inspired by Kant and Gæthe, put forth his book, "Zoonomia," wherein he maintained the gradual growth and evolution of all organisms from minute unseen germs. These views were put forth more as a poetic hypothesis than as a well-grounded scientific fact, so little attention was paid to Erasmus Darwin's books. The fanciful accounts of creation put forth by Moses three thousand years before were firmly maintained by the entrenched volunteers and their millions of devotees and followers.

But Kant, Gothe, Von Baer, and Geoffrey Saint-Hilaire were planting their outposts throughout the civilized world, honeycombing Christendom with doubt. In 1852, Herbert Spencer had argued in public and in pamphlets, that species have undergone changes and modifications through change of surroundings, and that the account of Noah and his ark with pairs of everything that flew, crept or ran was fanciful and absurd, so far as we cared to distinguish fact from fiction. C Early in the year 1858, Charles Darwin received from his friend, Alfred Russel Wallace, a paper entitled, "On the Tendency of Varieties to Depart Indefinitely from the Original Type." At this time Darwin had in the hands of the secretary of the Linnæus Society, a paper entitled, "On the Tendency of Species to Form Varieties, or the Perpetuation of Species and Varieties by Means of Natural Selection."

The similarity in title as well as the similarity in treat-

ment of the Wallace theme startled Darwin. He had been working on the idea for twenty years, and had an immense mass of data bearing on the subject, which he some day intended to issue in book form.

His paper for the Linnæus Society simply summed up his convictions. And now here was a man with whom he had never discussed this particular subject, writing an almost identical paper and sending it to him—of all men!

Well did he pinch his leg, and call in his wife, asking her if he were alive or dead. Straightway he went to see Sir Charles Lyell and Sir Joseph Hooker, both more eminent than he in the scientific world, and laid the matter before them. After a long conference it was decided that both papers should be read the same evening before the Linnæus Society, and this was done on the evening of July 1, 1858.

Darwin then decided to publish his "Origin of Species," which in his preface he modestly calls an "Abstract." The publication was hastened by the fact that Wallace was compiling a similar work. After giving Wallace full credit in his most interesting "Introduction," and reviewing all that others had said in coming to similar conclusions, Darwin fired his shot heard 'round the world. And no man was more delighted and pleased with the echoing reverberations than Alfred Russel Wallace, as he read the book in far-off Australia.

The honor of discovering the Law of Evolution, and lifting it out of the hazy realms of hypothesis and poetry into the sunlight of science, will ever be shared between

Charles Robert Darwin and Alfred Russel Wallace, brothers in spirit and lovers to the end of their days.

LITTLE JOURNEYS



N an insignificant village of England, now famous alone because he began from there his world explorations, Alfred Russel Wallace was born in 1822.

He was one of a large family, of the middle class, where work is as natural as life,

and the indispensable virtues are followed as a means of self-preservation. It is most unfortunate to attain such a degree of success that you think you can waive the decalog and give Nemesis the slip.

About the year 1840, the railroad renaissance was on in England, and young Wallace, alive, alert, active, did his turn as apprentice to a surveyor.

Chance is a better schoolmaster than Design.

All boys have a taste for tent life, and healthy youngsters not quite grown, with ostrich digestions, passing through the nomadic stage, revel in hardships & count it a joy to sleep on the ground where they can look up at the stars, and eat out of a skillet.

A little later we find Alfred working for his elder brother in an architect's office, gazing abstractedly out of the window betimes, and wishing he were a ground-squirrel, fancy free on the heath and amid the heather, digging holes, thus avoiding introspection. "Houses are prisons," he said, and sang softly to himself the song of the open road.

I think I know exactly how Alfred Russel Wallace then felt, from the touchstone of my own experience, and I think I know how he looked, too, all confirmed by an East Aurora incident.

Some years ago, one fine day in May, I was helping excavate for the foundation of a new barn. All at once I felt that some one was standing behind me looking at me. I turned around and there was a tall, lithe, slender youth in a faded college cap, blue flannel shirt, ragged trousers and top boots.

My first impression of him was that he was a fellow who slept in his clothes—a plain "Weary"—but when he spoke there was a note of self-reliance in his low, well-modulated voice that told me he was no mendicant. Voice is the true index of character.

"My name is Wallace and I have a note to you from my father"—and he began diving into pockets, and finally produced a ragged letter that was nearly worn out through long contact with a perspiring human form divine—or partially so.

I seldom make mad haste about reading letters of introduction, and so I greeted the young man with a word of welcome, and gave him a chance to say something for himself.

He was English that was very sure, and Oxford English at that. "You see," he began, "I am working just now over on the Hamburg & Buffalo Electric Line, stringing wires. I get three dollars a day because I'm a fairly good climber. I wanted to learn the business, so I just hired out as a laborer, and they gave me the hardest

job, thinking to scare me out, but that was what I wanted "—and he smiled modestly and showed a set of incisors as fine and strong as dog teeth. "I want to remain with you a week and pay for my board in work," he cautiously continued.

"But about your father—Mr. Wallace—do I know him?"

"I think so—he has written you several letters—Alfred Russel Wallace!"

You could have knocked me down with a ladyslipper. **QI** opened the letter and unmistakably it was from the great scientist, "introducing my baby boy."

I never met Alfred Russel Wallace, and I know if I should, I would find him very gentle, kindly and simple in all his ways—as really great men ever are.

He would not talk to me in Latin nor throw off technical phrases about great nothings, and I would feel just as much at home with him as I did with Ol' John Burroughs the last time I saw him, leaning up against a country railway station in shirt-sleeves, chewing a straw, exchanging salutes with the engineer on a West Shore jerkwater. "S' long, John!" called the going one as he leaned out of the cab window.

"S'long, Bill, and good luck to you," was the cheery answer & &

But still all of us have moments when we think of the world's most famous ones as being surely eight feet tall, and having voices like fog-horns.

"I can do most any kind of hard work, you know"—
I was aroused from my little mental excursion, and

noticed that my visitor had hair of a light yellow like a Swede from Hennepin County, Minnesota, and that this hair was three shades lighter than his bronzed face & &

"I can do any kind of work, you know, and if you will just loan me that pick"—

And I handed him the pickaxe.

Young Wallace remained with us for a week, asking for nothing, doing everything, even to helping the girls wash dishes. That he was the son of a great man, no one would have ever learned from his own lips. In fact I am not sure that he was impressed with his father's excellence, but I saw there was a tender bond between them, for he haunted the village postoffice, morning, noon and night, looking for a letter from his father. When it came he was as happy as a woodchuck. He showed me the letter-it was nine finely written pages. But to my disappointment not a word about marsupials, siamang or syndactylæ, just news about William John, Mary and Benjamin, with references to chicken and cows, and a new greenhouse, with a little good advice about keeping right hours and not overeating. I The young man had spent three years at Oxford, and was an electrical engineer. He was intent on finding out just as much about the secrets of American railroad construction as he possibly could. As for intellect, I did not discover any vast amount, perhaps he did n't either. But we all enjoyed his visit, and when he went away I presented him with a clean, second-hand flannel shirt and my blessing.

ROM the appearance of the young man I imagine that Alfred Russel Wallace at twenty-one was very much such a man as his son, who did us such good work at the Roycroft with pick and shovel.

Alfred was earnest, intent, strong, and had a deal of quiet courage that he was as unconscious of as he was of his digestion.

He taught school, and to interest his scholars he would take them on botanical excursions. Then he himself grew interested, and began to collect plants, bugs, beetles and birds on his own account.

By 1848, the confining walls of the school had become intolerable to Wallace and he started away on a wild-goose-chase to Brazil, with a chum by the name of Henry Walter Bates, an ardent entomologist. Alfred had no money either, but Bates had influence, and he cashed it in by arranging with the Curator of the British Museum, that any natural history specimens of value which they might gather and send to him, would be paid for. And so something like a hundred pounds was collected from several scientific men and handed over, as advance payment for the wonderful things that the young men were to send back.

They embarked on a sailing vessel that was captained by a kind kinsman of Bates, so the fare was nil in consideration of services rendered constructively.

Arriving at Brazil the young men began their collecting of historic specimens. They got together a very creditable collection of birds' eggs and sent them back

by the captain of the ship they came out on,—this as an earnest of what was to come.

Bates and Wallace were together for a year.

Bates insisted on remaining near the white settlements. But Wallace wanted to go where white men had never been. So alone he went into the forests, and for two years lived with the natives and dared the dangers of jungle fever, snakes, crocodiles and savages. For a space of ten months he did not see a single white person **

He collected nearly ten thousand specimens of birds, which he skinned and carefully prepared so they could be mounted when he returned to England; there was also a nearly complete Brazilian herbarium, and a finer collection of birds' eggs than any museum of England could boast.

This collection represented over three years' continuous toil. All the curious things were packed with great care and placed on board ship.

And so the young naturalist sailed away for England, proud and happy, with his great collection of entomological, botanical and ornithological specimens.

But on the way the ship took fire, and the collection was either burned or ruined by soaking salt water.

That the crew and their sole passenger escaped alive was a wonder. Wallace on reaching England was in a sorry plight, being destitute of clothes and funds.

And there were unkind ones who did not hesitate to hint that he had only been over to Ireland working in a peat bog, and that his knowledge of Brazil was got-

ten out of Humboldt's books. ¶In one way Wallace surely paralleled Humboldt—both lost a most valuable collection of natural history specimens by shipwreck. ¶Several of the good men who had advanced money now asked that it be paid. Wallace set to work writing out his recollections, the only asset that he possessed. ¶His book, "Travel on the Amazon and Rio Negro," had enough romance in it so that it floated.

Royalties paid over in crisp Bank of England notes made things look brighter.

Another book was issued called, "Palm Trees and their Uses," and proved that the author was able to view a subject from every side, and say all that was to be said about it. "Wallace on the Palm" is still a text-book.

¶ The debts were paid and Alfred Russel Wallace at thirty was square with the world, the possessor of much valuable experience. He also had five hundred pounds in cash, with a reputation as a writer and traveler that no longer caused bookworms to sneeze.

¶ Having paid off his obligations, he felt free to again leave England, a thing he vowed he would not do so long as his reputation was under a cloud.

This time he had selected for a natural history survey a section of the world really less known than South America.





ARLY in 1854, Wallace reached Asia. He had decided that he would make the first, and the best collection of the flora & fauna of the Malay Archipelago that it was possible to make. White men had skirted the coast of many of the islands, but as to

what there was inland was mostly conjecture and guesswork.

How long it would take Wallace to make his Malaysian natural history survey he did not know, but in a letter to Darwin he stated that he expected to be absent from England at least two years.

He was gone eight years, & during this time, walked, paddled or rode horseback fifteen thousand miles, and visited many islands never before trod by the foot of a white man.

The city of Singapore served him as a base or headquarters, because from there he could catch trading ships that plied among the islands of the Archipelago; and to Singapore he could also ship and there store his specimens.

From Singapore he made sixty separate voyages of discovery & &

In all he sent home to England over a hundred and twenty-five thousand natural history specimens, including about ten thousand birds, which later on, were all stuffed and mounted under his skillful direction. ¶ On returning to England, Wallace took six years in preparation of his book "The Malay Archipelago," a most stupendous literary undertaking, that covers the

LITTLE

subjects of botany, geology, ornithology, entomology, zoology and anthropology, in a way that serves as a regular mine of information and suggestion for natural history workers.

The book in its original form, I believe, sold for ten pounds—fifty dollars, and was issued to subscribers in parts. It was bought, not only by students, but by a great number of general readers, there being enough adventure mixed up in the science, to spice what might otherwise be rather dry reading.

For instance, there is a chapter about killing orangutans that must have served my old friend, Paul du Chaillu, as excellent raw stock in compiling his own recollections.

Wallace states that the only foe for which the orang really has a hatred is the crocodile. It seems to share with man a shuddering fear of snakes although orangs have no part in making Kentucky famous. But the crocodile is his natural and hereditary enemy. And as if to get even with this ancient foe who occasionally snaps off a young orang in his prime, the orangs will often locate a big crocodile, and jumping on his back beat him with clubs, and when he opens his gigantic mouth, the female orangs will fill the cavity with sticks and stones and keep up the fight until the crocodile succumbs and quits this vale of crocodile tears.

The orang is distinct and different from the chimpanzee or gorilla which is found only in Western Africa. ¶ In Borneo the "man-ape" is quite numerous. This is the animal that has given rise to all those tales about

"the wild man of Borneo," which that good man, P. T. Barnum, kept alive by exhibiting a fine specimen. Barnum's original "wild-man" lived at Waltham, Massachusetts, and belonged to the Baptist Church. He recently died worth a hundred thousand dollars, which money he left to found a school for young ladies. QThe orang or mias, hides in the swampy jungles, and very rarely comes to the ground. The natives regard them as a sort of sacred object, and have a great horror of killing them. Indeed, a person who kills a man-ape, they regard as a murderer, and so when Wallace announced to his attendants that he wanted to secure several specimens of these "wild-men of the woods," they cried, "Alas! he is making a collection, it will be our turn next!" And they fled in terror.

Wallace then hired another set of servants and resolved to make no confidants, but just go ahead and find his game & &

He had hunted for weeks through forest and jungle, but never a glimpse or sight of the man-ape! He had almost given up the search, and concluded with several English scientists that this orang-utan was a part of that great fabric of pseudo-science invented by imaginative sailormen, who took most of their inland little journeys around the capstan. And so musing, seated in the doorway of his bamboo house, he looked out upon the forest, and there only a few yards away, swinging from tree to tree was a man-ape. It seemed to him to be about five times as large as a man.

He seized his gun and approached, the beast stopped,

glared and railed at him in a voice of wrath. It broke off branches and threw sticks at him.

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Wallace thought of the offer made him by the South Kensington Museum: "One hundred pounds in gold for an adult male—skin and skeleton to be properly preserved and mounted—seventy-five pounds for a female."

The huge animal showed its teeth, cast one glance of scornful contempt on the puny explorer and started on, swinging thirty feet at a stretch and catching hold of the limbs with its two pairs of hands.

Wallace grasped his gun and followed on, lured by the demoniac shape. A little of the superstition of the natives had gotten into his veins—he dare not kill the thing unless it came toward him, and he had to shoot it in self-defense.

It traveled in the trees about as fast as he could on the ground. Occasionally it would stop and chatter at him, throwing sticks in a most human way as if to order him back.

Finally, the instincts of the naturalist got the better of the man, and he shot the animal. It came tumbling to the ground with a terrific crash, grasping at the vines and leaves as it fell.

It was quite dead, but Wallace approached it with great caution. It proved to be a female, of moderate size, in height about three and a half feet, six feet across from finger to finger. Needless to say that Wallace had to do the skinning, and the mounting of the skeleton alone. His servants had chills of fear if asked

to approach it. The skeleton of this particular orang can now be seen in the Derby Museum.

In a few hours after killing his first orang Wallace heard a peculiar crying in the forest, and on search found a young one, evidently the baby of the one he had killed. The baby did not show any fear at all, evidently thinking it was with one of its kind, for it clung to him piteously, with an almost human tenderness.

Says Wallace: When handled or nursed it was very quiet and contented, but when laid down by itself would invariably cry; and for the first few nights was very restless and noisy. I soon found it necessary to wash the little mias as well. After I had done so a few times it came to like the operation, and after rolling in the mud would begin crying, and continue until I took it out and carried it to the spout, when it immediately became quiet, although it would wince a little at the first rush of the cold water, and make ridiculously wry faces while the stream was running over its head. It enjoyed the wiping and rubbing dry amazingly, and when I brushed its hair seemed to be perfectly happy, lying quite still with its arms and legs stretched out, while I thoroughly brushed the long hair of its back & arms. It was a never failing amusement to observe the curious changes of countenance by which it would express its approval, or dislike, of what was given to it. The poor little thing would lick its lips, draw in its cheeks, and turn up its eyes with an expression of the most supreme satisfaction, when it had a mouthful particularly to its taste. On the other hand, when its food was not sufficiently sweet or palatable, it would turn the mouthful about with its tongue for a moment, as if trying to extract what flavor

there was, and then push it all out between its lips. If the same food was continued, it would proceed to scream and kick about violently, exactly like a baby in a passion & When I had had it about a month it began to exhibit some signs of learning to run alone. When laid upon the floor it would push itself along by its legs, or roll itself over, and thus make an unwieldy progression. When lying in the box it would lift itself up to the edge in an almost erect position, and once or twice succeeded in tumbling out. When left dirty or hungry, or otherwise neglected, it would scream violently till attended to, varied by a kind of coughing noise, very similar to that which is made by the adult animal. If no one was in the house, or its cries were not attended to, it would be quiet after a little while; but the moment it heard a footstep would begin again, harder than ever. It was very human.



HE most lasting result of the wanderings of Alfred Russel Wallace consists in his having established what is known to us as "The Wallace Line."

This line is a boundary that divides in a geographical way that portion of Malay-

sia which belongs to the continent of Asia from that which belongs to the continent of Australia.

The Wallace Line covers a distance of more than four thousand miles, and in this expanse there are three islands in which Great Britain could be set down without anywhere touching the sea.

Even yet the knowledge of the average American or European is very hazy about the size and extent of

the Malay Archipelago, although through our misunderstanding with Spain, which loaded us up with possessions we have no use for, we have recently gotten the geography down and dusted it off a bit.

There is a book by Mrs. Rose Innes, wife of an English official in the Far East, who among other entertaining things, tells of a head-hunter chief who taught her to speak Malay, and she, wishing to reciprocate, offered to teach him English, but the great man begged to be excused, saying, "Malay is spoken everywhere you go, east, west, north or south, but in all the world there are only twelve people who speak English," and he proceeded to name them.

Our assumptions are not quite so broad as this, but few of us realize that the Protestant Christian Religion stands fifth in the number of communicants, as compared with the other great religions, and that against our eighty millions of people in America, the Malay Archipelago has over two hundred millions. Wallace found marked geological, botanical and zoological differences to denote his line. And from these things he proved that there had been great changes, through subsidence and elevation of the land. At no very remote geologic period, Asia extended clear to Borneo, and also included the Philippine Islands. This is shown by the fact that animal and vegetable life in all of these islands are almost identical with life on the mainland—the same trees, the same flowers, the same birds, the same animals.

As you go westward, however, you come to islands

which have a very different flora and fauna, totally unlike that found in Asia, but very similar to that found in Australia.

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Australia, be it known, is totally different in all of its animal and vegetable phenomena from Asia.

In Australia, until the white man very recently carried them across, there were no monkeys, apes, cats, bears, tigers, wolves, elephants, horses, squirrels or rabbits. Instead there were found animals that are found nowhere else, and which seem to belong to a different and so-called extinct geologic age, such as the kangaroo, wombats, the platypus—which the sailors used to tell us was neither bird nor beast, and yet was both. In birds, Australia has also very strange specimens, such as the ostrich which cannot fly, but can outrun a horse and kills its prey by kicking forward like a man. Australia also has immense mound-making turkeys, honeysuckers, cockatoos, but no woodpeckers, quail or pheasants.

Wallace was the first to discover that there are various islands, some of them several hundred miles from Australia, where the animal life is identical with that of Australia. And then only a comparatively few miles away are islands which have all the varieties of birds and beasts found in Asia. But this line that once separated continents is in places but fifteen miles wide, and is always marked by a deep-water channel, but the seas that separate Borneo and Sumatra from Asia, although wide, are so shallow that ships can find anchorage anywhere.

The Wallace Line, proving the subsidence of the sea and upheaval of land, has never been seriously disputed, and is to many students the one great discovery by which Wallace will be remembered & Wallace's book on "The Geographical Distribution of Animals" sets forth the interesting details of how he came to discover the Line, in a most interesting manner.

It was in 1855, that Wallace, alone in the wilds of Malay became convinced of the scientific truth that species were an evolution from a common source, and he began making notes of his observations along this particular line of thought. Some months afterward he wrote out his belief in the form of an essay, but then he had no definite intention of what he would do with the paper beyond keeping it for future reference when he returned to England. In the fall of 1857, however, he decided to send it to Darwin to be read before some scientific society, if Darwin considered it worthy. And this paper was read on the evening of July 1st, before the Linnæus Society, with one by Darwin on the same subject, written before Wallace's paper arrived, wherein the identical views are set forth. Darwin and Wallace expressed what many others had guessed or but dimly perceived.



HREE out of the six immortal modern scientists began life as surveyors and civil engineers—Wallace, Tyndall and Spencer. From the number of eminent men, not forgetting Leonardo da Vinci, Washington, Lincoln, Ulysses S. Grant, Henry

Thoreau—aye! nor old John Brown, who carried a Gunter's chain and manipulated the transit—we must conclude that there is something in the business of surveying that conduces to clear thinking and strong independent action.

If I had a boy who by nature and habit was given to futilities, I would apprentice him to a civil engineer.

¶ When two gangs of men begin a tunnel, working toward each other from different sides of a mountain, dreams, poetry, hypothesis and guesswork had better be omitted from the equation. Here, at last, is a case where metaphysics has no bearing. It is a condition that confronts them, not a theory.

Theological explanations are assumptions built upon hypotheses, and your theologian always insists that you shall be dead before you can know.

If a bridge breaks down or a fire-proof building burns to ashes, no explanation on the part of the architect can explain away the miscalculation; but your theologian always evolves his own fog, into which he can withdraw at will, thus making escape easy.

Darwin, Huxley, Spencer, Tyndall and Wallace all had the mathematical mind & Nothing but the truth would satisfy them. In school, you remember how we

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sometimes used to work on a mathematical problem for hours or days. Many would give it up. A few of the class would take the answer from the book, and in an extremity force the figures to give the proper result. Such students, it is needless to say, never gained the respect of either class or teacher—or themselves. They had the true theological instinct.

But a few kept on until the problem was solved, or the fallacy of it had been discovered. In life's school such were the men just named, and the distinguishing feature of their lives was that they were students and learners to the last.

Of this group of scientific workers, Alfred Russel Wallace alone survives, aged eighty-two at this writing, still studying, earnestly intent upon one of nature's secrets that four of his great colleagues years ago labeled, "Unknown," and the other two marked, "Unknowable."

To some it is an anomaly and contradiction that a lover of science, exact, cautious, intent on certitude, should accept a belief in personal immortality. Still, to others this is regarded as proof of his superior insight.

All thinking men agree that we are surrounded by phenomena that to a great extent are unanalyzed; but Herbert Spencer, for one, thought it a lapse in judgment to attribute to spirit intervention, mysteries which could not be accounted for on any other grounds * It was equal to that sin against science which Darwin committed, and which he atoned for in contrite public confession, when he said, "It surely must be this, other-

wise what is it? Hence we assume * * * * * * "
Some recent writers have sought to demolish Wallace's argument concerning spiritism by saying he is an old man and in his dotage. Wallace once wrote a booklet entitled, "Vaccination a Fallacy," which created a big dust in Doctor's Row, and was cited as corroborative proof, along with his faith in socialism, that the man was mentally incompetent.

But this is a deal worse excuse for argument than anything Wallace ever put forth & The real fact is that Wallace issued a book on spiritism in 1874, and in 1896, reissued it with amendments, confirming his first conclusions. So he has held his peculiar views on immortality for over thirty years, and moreover his mental vigor at eighty-two is unimpaired.

Whether the proof he has received as to the existence of disembodied spirits is sufficient for others is very uncertain, but if it suffices for himself, it is not for us to quibble * Wallace agrees to allow us to have our opinions if we will let him have his.

His views are in no sense those of Christianity, rather they might be called those of Theosophy, as the personal God and the dogma of salvation and atonement are entirely omitted.

The doctrine of Evolution he carries into the realm of spirit. His belief is that souls reincarnate themselves many times for the ultimate object of experience, growth and development. He holds that this life is the gateway to another, but that we should live each day as though it were our last. To this effect we find in a

recent article, Wallace quotes a little story from Tolstoy: A priest seeing a peasant in a field plowing, approached him and asked, "How would you spend the rest of this day if you knew you were to die to-night?"

¶ The priest expected the man, who was a bit irregular in his church-going, to say, "I would spend my last hours in confession and prayer."

But the peasant replied, "How would I spend the rest of the day if I were to die to-night?—why, I'd plow!"

Q Wallace holds that it is better to plow than to pray, and in fact, rightly understood, good plowing is prayer. All useful effort is sacred, and nothing else is or can be.
Q Wallace believes that the only fit preparation for the future lies in improving the present.

Please pass the dotage.



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TEN YEARS OF THE PHILISTINE

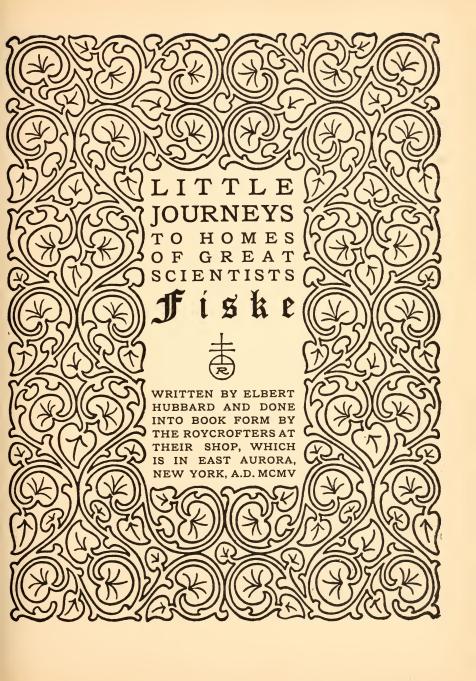
An Index & Concordance

OF VOLUMES I TO XX

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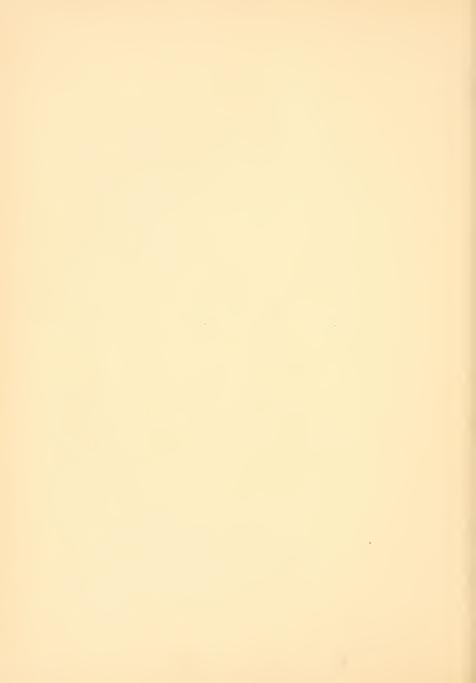
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JOHN FISKE



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John Fiske

In a sinless and painless world the moral element would be lacking; the goodness would have no more significance in our conscious life than that load of atmosphere which we are always carrying about with us.

We are thus brought to a striking conclusion, the essential soundness of which cannot be gainsaid. In a happy world there must be pain and sorrow, and in a moral world the knowledge of evil is indispensable. The stern necessity for this has been proved to inhere in the innermost constitution of the human soul. It is part and parcel of the universe. To him who is disposed to cavil at the world which God has in such wise created, we may fairly put the question whether the prospect of escape from its ills would ever induce him to put off this human consciousness, and accept in exchange some form of existence unknown and inconceivable! The alternative is clear: on the one hand a world with sin and suffering, on the other hand an unthinkable world in which conscious life does not involve contrast & &

We do not find that evil has been interpolated into the universe from without; we find that, on the contrary, it is an indispensable part of the dramatic whole. God is the creator of evil, and from the eternal scheme of things diabolism is forever excluded. Ormuzd and Ahriman have had their day and perished, along with the doctrine of special creation and other fancies of the untutored human mind. From our present standpoint we may fairly ask, what would have been the worth of that primitive innocence portrayed in the myth of the garden of Eden, had it ever been realized in the life of men? What would have been the moral value or significance of a race of human beings ignorant of sin, and doing beneficent acts with no more consciousness or volition than the deftly contrived machine that picks up raw material at one end, and turns out some finished product at the other? Clearly, for strong and resolute men and women an Eden would be but a fool's paradise.

-THROUGH NATURE TO GOD.



JOHN FISKE

ARLY in life John Fiske aimed high and thought himself capable of great things. He also believed that the world accepted a man at the estimate he placed upon himself.

Fiske was born at Hartford in 1842. His mother's maiden name was Fiske and his father's name was Green, and until well-nigh manhood, John Fiske was called Edmund Green.

His father died while Edmund was a baby, and the wee youngster was taken charge of by his grandmother Fiske of Middletown, Connecticut.

When his mother married again Edmund did not approve of the match. Parents often try to live their children's lives for them, and to hold the balance true, children occasionally attempt to dictate to parents in affairs of the heart. A young man by the name of Hamlet will be recalled who having no special business of his own became much distressed and had theories concerning the conduct of his mother. As a general proposition the person who looks after the territory directly under his own hat will find his time fairly well employed.

They say Edmund Green made threats when his mother changed her name, but all he did was to follow her example and change his. Thereafter he was plain John Fiske—"I must have a name easy to take hold of—one that people can remember," he said. And they do say that John Fiske's reverence for John Ruskin had something to do with his choice of name.

Just here some curious one of the curious sex, which by the way holds no monopoly on curiosity, may ask if the second venture of Mrs. Green was fruitful and fortunate. So I will say, yes, eminently so; and in one way it seemed to serve, for John Fiske's stepfather waived John's displeasure with his stepfather's wife, and did something toward sending the young man to Harvard University, and also supplied the funds to send him on a tour around the world.

However, the second brood revealed no genius, at sight of which the defunct Mr. Green from his seat in Elysium must have chortled in glee, assuming, of course, that disembodied spirits are cognizant of the doings of their late partners, as John Fiske seemed to think they were.

If Alexander Humboldt's mother had not married again, we would have had no Alexander Humboldt. Second marriages are like first ones in this: Sometimes they are happy and sometimes not. In any event, I occasionally think that mother-love has often been much exaggerated. Love is a most beautiful thing, and it does not seem to make very much difference who supplies it. Stepmother love, Lincoln used to say, was

I know a man who loves his mother-in-law, because she did pity him. Our Oneida friends had "Community Mothers" who took care of everybody's babies, just as if they were their own, and with marked success, for the genus hoodlum never evolved at Oneida. Grandmother love served all purposes for little Isaac Newton, just as it did for John Fiske.

John Fiske's grandmother was his first teacher, and she started out with the assumption that genius always skips one generation. She believed that she was dealing with a record-breaker, and she was. What she did not know about the classics, was known by others whom she delegated to teach her grandchild. When her baby genius was just out of linsey woolsey dresses and wore trousers buttoned to a calico waist, she began preparing him for college. The old lady had loved a college man in her youth, and she judged Harvard by the Harvard man she knew best. And the Harvard man she saw in her waking dreams, she created in her own image. Harvard requires perspective, and viewed over the years through a mist of melancholy it is very beautiful. At close range we often get a Jarrett Bumbell flavor of cigarettes and a sight of the foam that made Milwaukee famous. To a great degree gran'ma Fiske created her Harvard out of the stuff that dreams are made on. When her little charge was six years old she began preparing him for Harvard by teaching him to say "amo, amas, amat." At seven years of age he was reading Cæsar's Com-

mentaries and making wise comments over his bowl of bread and milk about the Tenth Legion; and he also had his opinions concerning the relationship of Cæsar with Cleopatra. At this time he read Josephus for rest, and discovered for himself that the famous passage about Jesus of Nazareth was an interpolation.

When he was eight he was familiar with Plato, had read all of Shakespeare's plays and propounded a few hypotheses concerning the authorship of the Sonnets. **G** At nine he spoke Greek with an Attic accent. When ten he had read Prescott, Gibbon, and Macaulay, and about this time as a memory test he wrote a history of the world from the time of Moses down to the date of his own birth, giving a list of the greatest men who had ever lived, with a brief mention of what they had done, with the date of their birth and death.

This book is still in existence and so far as I know has never been equaled by the performance of any infant prodigy—save possibly John Stuart Mill.

When twelve years of age he had read Virgil, Sallust, Tacitus, Ovid, Juvenal and Catullus. He had also mastered trigonometry, surveying, navigation, geometry and differential calculus.

Before his grandmother had him discard knee-breeches he kept his diary in Spanish, spoke German at the table, read German philosophy in the original. The year he was sixteen he wrote poems after Dante in Italian and translated Cervantes into English. At seventeen he read the Hebrew scriptures like a Rabbi, and was familiar with Sanskrit.

Now let no carpist imagine I have dealt in hyperbole, or hand-illumined the facts—I have merely stated some simple truths about the early career of John Fiske. **Q** One might imagine that with all his wonderful achievements this youth would be top-heavy and a most insufferable prig. The fact was, he was a fine rollicking, healthy young man much given to pranks, and withal generous and lovable.

He was admitted to Harvard without examination, for his fame had preceded him. Students and professors alike looked at him in wonder.

At Cambridge, as if to keep good his record, he studied thirteen hours a day, for twelve months in the year. He ranged through every subject in the catalog, and all recorded knowledge was to him familiar.

Prophecies were freely made that he would eclipse Sir Isaac Newton and Humboldt. But there were others who had a clearer vision.

John Fiske made a decided success in life and left his personality distinctly impressed upon his time, but it is no disparagement to say of him that autumn did not fulfill the promise of spring. And Fiske himself in his single original contribution to the evolution crusade explains the reason why.

Professor Santayanna of Harvard once said that John Fiske made three great scientific discoveries, as follows:

- 1.—As you lengthen a pigeon's bill, you increase the size of its feet.
- 2.-White tomcats with blue eyes are always deaf.

3.—The extent of mental development in any animal is in proportion to its infancy or the length of time involved in its reaching physical maturity.

Waiving Numbers One and Two as of doubtful value, Number Three is Fiske's sole original discovery, according to his confession. Further, Huxley quotes Fiske on this theme, and adds, "The delay of adolescence and the prolonging of the period of infancy form a subject, as expressed by Mr. Fiske, which is worthy of our most careful consideration."

Rare-ripes fall early. John Fiske's name was coupled, as we have seen, with those of Newton and Humboldt. Newton died at eighty-six, Humboldt at ninety. These men developed slowly—the hot-house methods were not for them. Fiske at twenty knew more than any of them did at forty. Fiske at twenty-five was a better man mentally and physically than he was at thirty-five. At forty he was refused life insurance because his measurement east and west was out of proportion to his measurement north and south.

He used often to sit at his desk for fifteen hours a day, writing and studying. The sedentary habit grew upon him; the vital organs got clogged with adipose tissue. The doctor told him that "his diaphragm was too close to his lungs,"—a cheerful proposition, well worthy of a small, mouse-colored medicus who dare not risk displeasing a big patient by telling him the truth—i. e. that deep breathing and active exercise in the open air can never be replaced through the use of something poured out of a bottle.

People who eat too much, drink too much, smoke too much, and do not exercise enough, have to pay for their privileges even though they are able to work differential calculus with one hand and recite Xenophon's Anabasis backward. They all have the liver and lungs too close to the diaphragm, because that damnable invention of Sir Isaac Newton's slumbers not nor sleeps, and all of the vital organs droop and drop when we neglect deep breathing. Inertia is a vice. The gods cultivate levitation, which is a different thing from levity, meaning skyey gravitation—uplift, aspiration expressed in bodily attitude.

When levitation lets go, gravity doubles its grip.

The Yogi of the East know vastly more about this theme than we do, and have made of deep breathing an art. Carry the crown of your head high, hold your chin in, and fill the top of your lungs by cultivating levitation. We are gods in the biscuit!



FTER four years at Harvard and the regulation two years at the Harvard Law School, John Fiske opened an office in Boston and gave his shingle to the breeze.

Q No clients came, and this was well—for the clients. Also for John. The law is

a business proposition—its essence is the adjustment of differences between men—the lubrication of exchange—getting things on! Learned men very seldom make good lawyers. Law is a very practical matter,

and as for "Law Latin," it can be learned in a week and then should be mostly forgotten. The lawyer who asks his client about the "causa sine qua non," or harangues the jury concerning the "ipse dixit of de facto and de jure," will probably be mulcted for costs on general principles.

"I always rule hard against the lawyer who quotes Latin," said a Brooklyn judge to me the other day. Happily, Law Latin is now not used to any extent, excepting in Missouri.

No more clients came to John Fiske than they did to Wendell Phillips, who once had a law office on the same street. So John sent letters to the newspapers, wrote book reviews, and contributed essays to the "Atlantic Monthly." Occasionally, he would lecture for scientific clubs or societies.

While still in the Law School he had discounted the future and married a charming young woman, who believed in him to an extent that would have made the average man pause.

Marriages do not always keep pace exactly with the price of corn.

Receipts in the Fiske law office were not active. John Fiske was twenty-six; his grandmother was dead, and family cares were coming along apace, all according to the Law of Malthus.

He accepted an offer to give substitute lectures at Harvard on history for a professor who had gone abroad for his health. This he continued, speaking for any absentee on any subject, and tutoring rich laggards

for a consideration. Good boys, low on phosphorus, used to get him to start their daily themes, and those overtaken in the throes of trigonometry he often rescued from disgrace.

Darwinism was in the saddle. Asa Gray was mildly defending it, Agassiz stood aloof clinging to his early Swiss-parsonage teachings, and the Theological Department marched in solid phalanx and scoffed and scorned. Yale, always having more theology than Harvard, threw out challenges. Fiske had saturated himself with the ideas of Darwin and Wallace and his intellect was great enough to perceive the vast and magnificent scope of the "Origin of Species." He prepared and read a lecture on the subject, all couched in gentle and judicial phrase, but with a finale that gave forth no uncertain sound.

The Overseers decided to ask Fiske to amplify the subject and give a course of lectures on the Law of Evolution.

The subject grew under his hands and the course extended itself into thirty-five lectures, covering the whole field of Natural History, with many short excursions into the realms of biology, embryology, botany, geology and cosmogony.

Fiske was made assistant librarian at a salary of one thousand dollars a year. It was not much money, but it gave him a fixed position, with time to help the erring freshman and the mentally recalcitrant sophomore handicapped by rich parents. For seven years Fiske held this position of assistant librarian, and

hardly a student at Harvard during those years but acknowledged the personal help he received at the hands of John Fiske. Knowledge consists in having an assistant librarian who knows where to find the thing. **Q** Fiske's thirty-five lectures had evolved into that excellent book "Outlines of Cosmic Philosophy." The public were buying it.

Evolution was fast taking its place as a fixed fact. And John Fiske was moving into public favor on the flood tide. There were demands for his lectures from various schools, colleges and lyceums, throughout the United States.

He resigned his position so as to give all his time to writing and speaking. And Harvard, proud of her gifted son, elected him an overseer of the University, which position he held until his death. John Fiske died in 1901, suddenly, aged fifty-nine.

WASSKANSDE ANSDE AND STREET

MERSON says, "Next to the originator of a great thought is the man who quotes it."

Next to the discoverer of a great scientific truth is the man who recognizes and upholds it.

The service done science by John Fiske is beyond calculation. Fiske was not a Columbus upon the sea of science—he followed the course laid out by others, and was really never out of sight of a buoy. He comes as near being a great scientist, perhaps, as any man that America has ever produced.

America has had but four men of unmistakable originality. These are: Franklin, Emerson, Whitman and Edison. Each worked in a field particularly his own, and the genius of each one was recognized in Europe before we were willing to acknowledge it here. But the word "scientist" can hardly be properly applied to any of these men. For want of a better name we call John Fiske our greatest scientist. He was the most learned man of his day. In the realm of Physical Geography no American could approach him. The combined knowledge of everybody else was his—he had a passion for facts, a memory like a day-book, and his systematic mind was disciplined until it was a regular Dewey card-index.

Louis Agassiz was born in Europe, but he was ours by adoption, and he might dispute with Fiske the title to first place in the American Pantheon of Science were it not for the fact that the Law of Evolution was beyond his ken, being obscured by a marked, myopic, theological, stigmatic squint.

Agassiz died in his sins, unconvinced, unrepentant, refusing the rite of extreme unction that Asa Gray offered him, his sensitive spirit writhing at mention of the word "Darwin." On his tomb, Clio with moving finger has carved one of his own sentences, nor all your tears shall blot a line of it. And these are the words of Agassiz: "Darwinism seeks to dethrone God, and replace Him by a blind force called The Law of Evolution." So passed away the great soul of Louis Agassiz.

Fiske has been called the Huxley of America; but Fiske was like Agassiz in this, he never had the felicity to achieve the ill-will of the many.

Fiske has also been called the Drummond of America, but Fiske was really a Henry Drummond and a Louis Agassiz rolled into one, the mass well seasoned with essence of Huxley.

John Fiske made the science of Darwin and Wallace palatable to orthodox theology, and it is to the earnest and eloquent words of Fiske that we owe it that Evolution is taught everywhere in the public schools and even in the sectarian colleges of America to-day.

The almost universal opposition to Darwin's book arose from the idea that its acceptance would destroy the Christian religion.

This was the plaintive plea put forth when Newton advanced his discovery of the Law of Gravitation, and also when Copernicus proclaimed the movements of the earth,—these things were contrary to the Bible! Copernicus was a loyal Catholic; Sir Isaac Newton was a staunch Churchman, but both kept their religion in water-tight compartments, so that it never got mixed with their science. Gladstone never allowed his religion to tint his statesmanship, and we all know business men who follow the double-entry scheme. That French toast, "Here's to our wives and sweethearts—may they never meet!" would suit most lawyers just as well if expressed this way, "Here's to our religion and our business—God knows they

never meet!" **Q**To Sir Isaac Newton, religion was something to be believed, not understood. He left religion to the specialists, recognizing its value as a sort of police protection for the state, and as his share in the matter he paid tithes and attended prayers as a matter of patriotic duty and habit.

Voltaire recognized the greatness of Newton's intellect, but he could not restrain his aqua fortis and so he said this, "All the scientists were jealous of Newton when he discovered the Law of Gravitation, but they got even with him when he wrote his book on the 'Hebrew Prophecies'!" Newton wrote that book in his water-tight compartment.

But Newton was no hypocrite. The attitude of the Primrose Sphinx who bowed his head in the Church of England Chapel—the Jew who rose to the highest office Christian England had to offer—and repeated Ben Ezra's prayer, was not the attitude of Newton. Darwin waived religion, and if he ever heard of the Bible no one knew it from his writings. Huxley danced on it. Tyndall and Spencer regarded the Bible as a valuable and more or less interesting collection of myths, fables, and folk-lore tales. Wallace sees in it a strain of prophetic truth and regards it as gold-bearing quartz of a low grade. Fiske regarded it as the word of God, Holy Writ, expressed often vaguely, mystically and in the language of poetry and symbol, but true when rightly understood.

And so John Fiske throughout his life spoke in orthodox pulpits to the great delight of Christian people

and at the same time wrote books on science and dedicated them to Thomas Huxley, Bishop of all Agnostics. Q To the scientist the word "supernatural" is a contradiction. Everything that is in the Universe is natural; the supernatural is the natural not yet understood. And what is called the supernatural is often but the figment of a disordered, undisciplined or undeveloped imagination.

Simple people think of imagination as that quality of mind which revels in fairy tales and stories of hobgoblins, but such an imagination is undisciplined and undeveloped. The scientist who deals with the sternest of facts must be highly imaginative, or his work is vain. The engineer sees his structure complete, ere he draws his plans. So the scientist divines the thing first and then looks for it until he finds it. Were this not so he would not be able to recognize things hitherto unknown, when he saw them, nor could he fit fact to fact, like bones in a skeleton, and build a complete structure if it all did not first exist as a thought.

To reprove and punish children for flights of imagination, John Fiske argued was one of the things done only by a barbaric people. Children first play at the thing, which later they are to do well. Play is preparation. The man of imagination is the man of sympathy, and such only are those who benefit and bless mankind and help us on our way.

John Fiske had imagination enough to follow closely and hold fellowship with the greatest minds the world has ever known.

John Fiske believed that we live in a natural universe and that God works through Nature, and that in fact Nature is the spirit of God at work.

LITTLE JOURNEYS

Doubts never disturbed John Fiske. Things that were not true technically and literally, were true to him if taken in a spiritual or poetic way. God, to him, was a personal being, creating through the Law of Evolution because He chose to. The six days of creation, were six eons or geologic periods.

No man has ever been more in sympathy with the discoverers in Natural History than John Fiske. No man ever knew so much about his work as John Fiske. His knowledge was colossal, his memory prodigious. And in all of the realm of science and philosophy, from microscopy and the germ theory, to advanced astronomy and the birth of worlds, his flowing imagination saw the work of a beneficent Creator who stood above and beyond and outside of Natural Law and with infinite Wisdom and Power did His own Divine Will.

Little theologians who feared science on account of danger to pet texts, received from him kindly pats on the head, as he showed them how both science and scripture were true. He didn't do away with texts, he merely changed their interpretation. And often he discovered that the text which seemed to contradict science was really prophetic of it. John Fiske did not take anything away from anybody, unless he gave them something better in return. ¶ "A man's belief is a part of the man," he said. "Take it away by force

and he will bleed to death; but if the time comes that he no longer needs it, he will either slough it, or convert it into something more useful."

Every good thing begins as something else. Evolution is at work on the creeds as well as in matter. A monkey-man will have a monkey belief. He evolves the thing he needs, and the belief that fits one man will not another. Religious opinions are never thrown away—they evolve into something else, and we use the old symbols and imagery to express new thoughts. ¶John Fiske, unlike John Morley, considered "Compromise" a great thing. "Truth is a point of view—let us get together," he used to say. And so he worked to keep the old, as a foundation for the new.

I once heard him interrupted in a lecture by a questioner who asked, "Why would you keep the Church intact?" The question stung him into impassioned speech which was better than anything in his manuscript. I cannot attempt to reproduce his exact language, but the intent was that as the Church was the chief instrument in preserving for us the learning of Greece and Rome, so has she been the mother of art, the inspirer of music and the protector of the outcast. Colleges, hospitals, libraries, asylums, art galleries, all come to us through the medium of religion. The convent was first a place of protection for oppressed womanhood.

To discard religion would be like repudiating our parents because we did not like their manners and clothes. The religious impulse is the art impulse, and

both are manifestations of love—and love is the basis of our sense of sublimity.

Certain phases of religion we surely will abandon. We will purify, refine and beautify our religion, just as we have our table etiquette and our housekeeping. The millennium will come only through the scientific acceptance of piety. When the Church and State separated it was well, but when Science and Religion joined hands it was better. Science stands for the head; religion for the heart. All things are dual, and through the marriage of these two principles, one the masculine and the other the feminine, will come a renaissance of advancement such as this tired old world on her zigzag journeys has never seen. Sociology is the religious application of economics. Demonology has been replaced by psychology, and the betterment of man's condition on earth is now fast becoming the chief solicitude of the Church.

It will thus be seen that John Fiske's hope for the future was bright and strong. The man was an optimist by nature, and his patience and good nature were always in evidence. He made friends, and he held them. Huxley, who of all men hated piety that was flavored with hypocrisy, loved John Fiske and once wrote this: "There was a man sent from God by the name of John Fiske. Now John holds in his great and generous heart the best of all the Church has to offer, hence I no longer go to prayers, but instead, I invite John Fiske to come and dine with us every Sunday, so are we made better—Amen."

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knowledge; yea, he gave good heed, and sought out, and set in order many proverbs. The words of the wise are as goads, and as nails fastened by the masters of assemblies, which are given from one shepherd. And further, by these, my son, be admonished; Of making many books there is no end; and much study is a weariness of the flesh. Better is a poor and a wise child than an old and foolish king, who will no more be admonished.

—Ecclesiastes.



OBSERVATIONS

HE Preacher says, "Let us pray." The Practicer says, "Let us smile."

Long face never went with broad experience.

Weather advice for all the year round: Your heart won't keep fresh in cold storage.

To "practice self-control" is to prohibit self-command.

A man who attempts to "drive a sharp bargain" usually finds its sharpness lay in its hind heels.

The first ingredient of common sense is the sense of humor.

To judge a man's character: Ask the opinion of his next-door neighbor—then believe the opposite.

The Rhyme of the Rendezvous: "Tongues wag, bodies lag, hearts sag."

¶ In the presence of a real teacher, we do not learn. We discover.

If the man that loves a woman was as careful to tell her so as the man that does not, homes would be happier and wrecked lives fewer.

Most people are too human to be humane.

Only small fish travel in shoals.

Rules were made to be broken. But only by those who do it quietly enough not to wake the neighbors.

Every birthday-fete is a death-day forecast.

A good deed becomes bad and a bad deed worse in the telling.

The only trouble with optimists is they 're weak in ornithology. Most of them imagine Hope can be all wings and no body.

From the Confessions of a Proselyter (meaning me): "When a man's faith is strong enough to work and support itself, he never sees it moping among the neighbors—advising them to use its peculiar brand of predigested creed."

Pshaw! A "post of honor" is only a hitching-post after all.

Only a nobody can be a public personage.

"Patriotism" is excusable in hornets and hedge-hogs, but not in men. G. When we praise people for being polite, we forget they do not dare be sincere.

To have "no time to lose" is sometimes to have no eternity to gain.

No man may safely play on a woman's feelings till he learns the use of the tremolo stop.

The surest proof I am growing sincere: little children smile as I pass.

EDWARDEARLE PURINTON

A POINT OF VIEW

HE thinking men and women of the world have awarded to Elbert Hubbard the degree of Doctor of Common Sense," says Mr. Bailey Millard in the Cosmopolitan for September. Q And we think the award is just. Elbert Hubbard is the sanest, most vivid, direct and original writer in America, and many look upon him as a philosopher of so big and generous a type that he is worthy to be called the true successor of Herbert Spencer, the greatest philosopher of his age. Whether Hubbard is as deep a thinker as Spencer let time and the prophecies of both reveal. Spencer has given us many daring flights of imagination, but in way of practical achievement, dealing with humanity and the world as it exists. Elbert Hubbard has done things which to Herbert Spencer were impossible. Hubbard deals less with theories and more with facts. Hubbard has a firm and sure grasp on practical economics. He is a successful business man, a remarkable writer and an orator of power. His experience in the world of workers, in business, as a teacher and before the people as a public lecturer, has given him a broad outlook into methods, motives and possibilities. He views things from the vantage ground of actual contact, while Spencer, to a great degree, was a laboratory recluse. That philosophic nugget, A Message To GARCIA could only have been written by a man who had been both employee and employer-a man who had received orders and given them. Q If there is any other living writer who deals with life with the same courage, faith and hope that Elbert Hubbard reveals, we do not know him. **Q** Hubbard is a teacher of the people who teach. **Q** He supplies texts for many sermons—where his name is never mentioned; suggests thoughts for editorial writers, and gives to many an essavist his needed initial impulse. Hubbard's influence is strongest among the people who play big parts upon life's stage. **Q** The test of greatness lies not in the ability to produce like-mindedness, but to stir men up to think for themselves. Hubbard divides men. And society to-day is fast reaching a point where there are but two classes, those who read Elbert Hubbard, and those who don't. And those who don't, can't. To disparage this man is proof of incapacity. Hubbard's test of every phase of life is, Will it serve? And no matter what the nimble critics may say, Elbert Hubbard's life is dedicated to the service of mankind, and he who declares otherwise has never seen the man, heard him speak, nor visited the place which he has made famous. And the fact that in working for mankind Hubbard regards himself as an important part of mankind need not weigh in the balance 'gainst the man himself, for Elbert Hubbard, of all men, is wise enough to know that the only way to benefit yourself is to benefit others. -Denver Post.

INITIATIVE

HE world bestows its big prizes, both in money and honors; for but one thing. And that is Initiative. What is Initiative? **Q** I 'll tell you: It is doing the right thing without being told. **Q** But next to doing the thing without being told is to do it when you are told once. That is to say, carry the Message to Garcia! I There are those who never do a thing until they are told twice: such get no honors and small pay. Q Next, there are those who do the right thing only when necessity kicks them from behind, and these get indifference instead of honors, & a pittance for pay. This kind spends most of its time polishing a bench with a hard-luck story. **Q** Then, still lower down in the scale than this, we have the fellow who will not do the right thing even when some one goes along to show him how and stays to see that he does it: he is always out of a job, and receives the contempt he deserves, unless he has a rich Pa, in which case Destiny patiently awaits around the corner with a stuffed club. **Q** To which class do you belong?

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BUSINESS WOMEN

A Lunch Fit for a King.

An active and successful young lady tells her food experience:

"Some three years ago I suffered from nervous prostration, induced by continuous brain strain and improp-

er food, added to a great grief.

"I was ordered to give up my work, as there was great danger of my mind failing me altogether. My stomach was in bad condition (nervous dyspepsia, I think now) and when Grape-Nuts food was recommended to me, I had no faith in it. However, I tried it, and soon found a marked improvement in my condition as the result. I had been troubled with deathly faint spells, and had been compelled to use a stimulant to revive me. I found, however, that by eating Grape-Nuts at such times I was relieved as satisfactorily as by the use of stimulants, and suffered no bad effects, which was a great gain. As to my other troubles—nervous prostration, dyspepsia, etc.—the Grape-Nuts diet soon cured them. "I wish especially to call the attention of office girls

"I wish especially to call the attention of office girls to the great benefit I derived from the use of Grape-Nuts as a noon luncheon. I was thoroughly tired of cheap restaurants and ordinary lunches, and so made the experiment of taking a package of Grape-Nuts food with me, and then slipping out at noon and getting a nickel's worth of sweet cream to add to it. I found that the simple dish, finished off with an apple, peach, le critics orange, or a bunch of grapes made a lunch fit for a king, ankind,

and one that agreed with me perfectly.

"I throve so on my Grape-Nuts diet that I did not have to give up my work at all, and in the two years have had only four lost days charged up against me.

"Let me add that your suggestions in the little book "Road to Wellville" are, in my opinion, invaluable, especially to women." Name given by Postum Co., Battle Creek, Mich. "The Road to Wellville" in each pkg.

E Tc both given e with we do Q He ioned: sayist ag the atness 1 up to is fast read n't. To ankind, rd him he fact portant nimself, he only

r Post.

gree,

The Roycroft Inn

The Phalansterie



The
Roycrofters
East Aurora
New York

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A SPOON SHAKER

Straight From Coffeedom

Coffee can marshall a good squadron of enemies and some very hard ones to overcome. A lady in Florida writes:

"I have always been very fond of good coffee, and for years drank it at least three times a day. At

last however I found it was injuring me.

"I became bilious, subject to frequent and violent headaches, and so very nervous that I could not lift a spoon to my mouth without spilling a part of its contents; my heart got 'rickety' and beat so fast and so hard that I could scarcely breathe, while my skin got thick and dingy, with yellow blotches on my face, caused by the condition of my liver and blood. I made up my mind that all these afflictions came from the coffee, and I determined to experiment and see.

"So I quit coffee and got a package of Postum which furnished my hot morning beverage. After a little time I was rewarded by a complete restoration of my health in every respect. I do not suffer from biliousness any more, my headaches have disappeared, my nerves are as steady as could be desired, my heart beats regularly and my complexion has cleared up beautifully—the blotches have been wiped out and it is such a pleasure to be well again." Name given by Postum Co., Battle Creek, Mich.

There's a reason.

RUTH is our element of life, yet if a man fasten his attention on a single aspect of truth, and apply himself to that alone for a long time, the truth becomes distorted and not itself, but falsehood; herein resembling the air, which is our natural element, and the breath of our nostrils, but if a stream of the same be directed on the body for a time, it causes colds, fever, and even death. How wearisome the grammarian, the phrenologist, the political or religious fanatic, or indeed any possessed mortal whose balance is lost by the exaggeration of a single topic. It is incipient insanity. Every thought is a prison also. I cannot see what you see, because I am caught up by a strong wind, and blown so far in one direction that I am out of the hoop of your horizon.



N the opposite page is a proof of title page of Mr. Hubbard's latest book: the work being a cosmic Little Journey to the Home of Homo, beginning with the creation of man and continuing to the reorganization of the Equitable Insurance Co. ¶ This volume contains some of the best writing that the author has ever done, and is keyed throughout in fairly good humor \$\frac{1}{2} \frac{1}{2} \fr



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THE OCTOBER NUMBER

will be the most artistic and interesting that has yet been issued. Clara Morris, the well-known author and actress contributes an attractive article, a personal sketch of Mme. Jane Hading, the French actress. The illustrations are unusually interesting, containing among other things scenes from the Philippine Islands along the route of Secretary Taft.

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¶ The three-day train—evening departure—from Chicago and St. Louis to Los Angeles and San Francisco, runs via Southern Route.

Q A second well-equipped daily train over same

route-morning departure.

Q Let us send you our new "California Train" book and 1905 edition of "The Golden Gate."

Write to-day enclosing 6 cents in stamps.

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Passenger Traffic Mgr., Rock Island, Chicago





Rear-Admiral R. D. Evans of the United States Navy once said speaking of the

California Limited

The California Limited runs daily between Chicago, Los Angeles, San Diego & San Francisco. For descriptive booklet, address Passenger Dept. A. T. & S. F. Ry. System, Railway Exch. Chicago "The Santa Fe certainly has the finest dining-car service in the world."

The Roycroft Inn

The Phalansterie



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WORK A PLEASURE

It Is One of the Real Joys Given Us.

"Postum Food Coffee has done more for me in two years," writes a Wisconsin young lady student, "than all the medicines and treatments I had employed to overcome the effects of the coffee poisoning that was killing me by degrees.

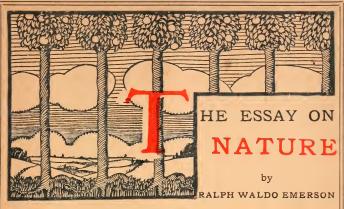
"I had all the familiar symptoms and suffered all the well-known tortures. My stomach was wrecked and I could not eat, my head ached almost continually, I became the nervous victim of insomnia, and the capacity for study deserted me. Of course this came on gradually, and without suspicion, for a long time, as to the cause.

"Two years ago a friend enthusiastically urged me to quit using the old kind of coffee and to drink Postum Food Coffee. I have never regretted acting upon the advice. As soon as the coffee poison was eliminated, the strengthening and nourishing properties of Postum began to build me up.

"Each day I gained a little, the color crept back to my cheeks, my limbs rounded out with new flesh, my complexion grew fair and clear again, my digestion improved, and now I can eat anything at any time, the nervous insomnia has left me and I sleep soundly at night and wake up refreshed. I have no more headaches, and mental work has become a pleasure to me." Name given by Postum Co., Battle Creek, Mich.

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DEARLY love a cheerful optimist—
a man who can fix his gaze on a willo'-the-wisp, or glow-worm in the
blackest midnight, and persuade himself and others that it is high noon—

that the world is "dark with excess of bright." Sure 't is better to laugh than to be sighing—Democritus is preferable to Heraclitus . It is more pleasant to seek and commend virtue than to hurl anathemas at vice. Why, it may well be asked, should a man gaze into a cesspool when he may look at the stars?

Marius and Cosette may dream away an hundred sensuous summer nights hidden in the boskage, satisfied with their own fond imaginings; but rob them of the halo of romance, destroy the airy palace in which they live and love, and there's naught left but a solfatara of lust. Romance is not alone the corolla of love; it is the very incense of virtue. So long as it envelops man & woman, they wander far above the crass animalism of the world.

W. C. B R A N N

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His are about people worth knowing. Ours

are about things worth knowing—real "little journeys" into Philistia. These are some of them—we have forty odd more. They cost fifty cents each, postpaid **

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Cellaret, No. 1, Hand Wrought Copper Trimmings, 40 inches Deep, 18 inches Wide, 32 inches High. Price, \$35.00.

for Christmas Presents should be ordered early, as we carry no stock on hand. Every piece is made to order * * * * * Furniture as a present is always acceptable—beautiful, plain, hand-made furniture (Roycroft) gives a joy to both giver and receiver. Why not give a piece or two to those you want to make really happy. ¶ We have pieces for use in any part of the house you may want it for. Our new catalog shows some good things and if your wants are very special, tell us of them.

THE ROYCROFTERS Furniture Shop, East Aurora, Erie Co., N. Y. E have used Oak, Mahogany, Bird's-eye Maple, Wal-

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We furnished a bedroom in ash for the Roycroft Inn and it seems to be a favorite. Ash takes a most beautiful polish. and the grain is a thing to delight one's heart.

Ash grows in this section and we have cut a quantity from our own woods. Bill Adams and Joe Savage are now getting it ready for us to use in making beautiful Furniture roycroftie. This lumber being home-grown, makes it possible for us to sell Ash Furniture for about ten per cent less than Oak, (which is getting scarce around here).

If you would like some of this Ash Furniture, send us ten cents and we will be glad to send you a sample of the finished

wood and Catalog of our Furniture. Address

The Roycrofters, Furniture Shop EAST AURORA, ERIE COUNTY, NEW YORK

TEN YEARS OF THE PHILISTINE

An Index & Concordance

VOLUMES I TO

Compiled by Julia Ditto Young. Bound solidly in Boards to match The Philistine.

The Price of the Book is One Dollar

THEROYCROFTERS EAST AURORA, ERIE CO., NEW YORK

The Man of Sorrows

Being a Little Journey to the home of

JESUS OF NAZARETH

By ELBERT HUBBARD

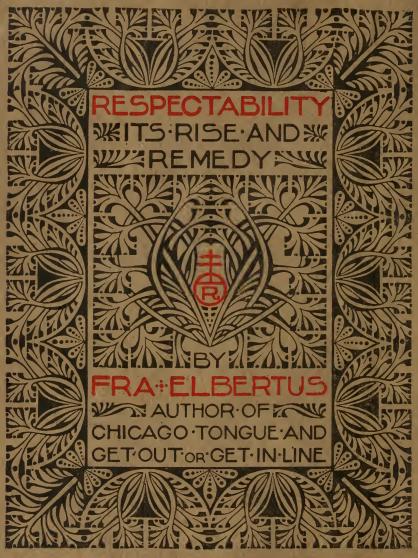


SINCERE attempt to sketch the life, time, and teachings, and with truth limn the personality of The Man of Sorrows.

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q If Elbert Hubbard's name lives in literature, it will not be on account of his exquisite "Philistine" fooling; nor yet because of that interesting trifle, "A Message to Garcia." But it will be on account of this book, "The Man of Sorrows." Here is a limpid, lucid tale of a man's life as the author sees it—told as if it had never been told before—told without preaching; in language full of grace, tenderness, and strong, quiet reserve. The book is an unconscious bid for immortality.—Denver Post



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